

November 2007

Final Supplemental Environmental Impact Statement

Appendix H (Pertinent Correspondence)

Lake Okeechobee Regulation Schedule



**U.S. Army Corps of Engineers
Jacksonville District**

APPENDIX H

Pertinent Correspondence For The Lake Okeechobee Regulation Schedule Study

U.S. Army Corps of Engineers
Jacksonville District

November 2007

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Pertinent Correspondence Summary

Letters, emails, and phone calls related to the Lake Okeechobee Regulation Schedule Study were received throughout the study process. Each piece of correspondence received on the June 2007 *Revised Draft Supplemental Environmental Impact Statement (DSEIS) for the Lake Okeechobee Regulation Schedule* was reviewed, recorded in the project comment tracking matrix, and addressed as necessary. Various agencies, stakeholders, and the general public shared positions and commented on the following topics as related to the Corps' revised Preferred Alternative:

- Concerns that improvement to the estuaries is minor
- Use available SFWMD lands for emergency lake water storage
- Define the interim nature of the new schedule
- Water supply and economic concerns with a lower lake schedule
- The Plan is acceptable at managing lake lower
- The Plan allows for more equitable discharges to estuaries and WCAs

Email Correspondence Received

Individual emails were received during the public comment period of the Revised DSEIS. The majority of those emails were from individuals still concerned that the Preferred Alternative does not substantially improve estuary performance. Most emails contained statements that did not warrant individual responses. The names of individuals sending email correspondence is included in Appendix H.

Email Form Letters Received

Approximately 80 form letters, the majority of the letters titled "Comments on the Draft Lake Okeechobee Regulation Schedule" were received by email during the public comment period of the June 2007 Revised DSEIS. A copy of the form letter is enclosed in Appendix H, with a print out of the names of each individual who submitted the letter.

**Official Documentation
Supporting
Development of New
Regulation Schedule**

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

December 20, 2005

Pete Milam
U.S. Army Corps of Engineers
CESAJ-DP-O
701 San Marco Blvd.
Jacksonville, FL 32207

Dear Mr. Milam:

Subject: SFWMD Governing Board Resolution concerning Lake Okeechobee's Water Control Plan and U.S. Army Corps of Engineer's Scoping Process

This letter is written for the purpose of transmitting the enclosed Resolution of the South Florida Water Management District (District's) Governing Board concerning Lake Okeechobee's Water Control Plan. This Resolution was passed unanimously at the Governing Board's October 12, 2005 meeting. It is my understanding a copy of this Resolution was provided to members of the District's Water Resource Advisory Committee members, including Dennis Duke and Beth Lewis of the U.S. Army Corps of Engineers (USACE) last fall. However, I wanted to be sure you also had a copy of the Resolution since you are the project manager for the USACE effort to modify the Lake Okeechobee Water Control Plan and this Resolution represents the District's position on the matters it requests be included in the USACE's Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule Study.

The Resolution requests the USACE, on a expedited basis, take the necessary actions to modify the Lake Okeechobee Water Control Plan for the purpose of achieving a more refined balance between the competing needs of the Lake ecosystem, estuarine ecosystems, the greater Everglades ecosystem, flood control, recreation, and water supply; achieving routine operation of the Lake at lower levels while addressing the Lake's multi-purpose objectives. Please note the Governing Board's Resolution specifically requests the USACE to assume the future presence of forward pumps in some of the alternatives considered when preparing the Draft SEIS for the Lake Okeechobee Regulation Study.

GOVERNING BOARD

Kevin McCarty, *Chair*
Irela M. Bagué, *Vice-Chair*
Pamela Brooks-Thomas

Alice J. Carlson
Michael Collins
Nicolás J. Gutiérrez, Jr., Esq.

EXECUTIVE OFFICE

Lennart E. Lindahl, P.E.
Harkley R. Thornton
Malcolm S. Wade, Jr.

Carol Ann Wehle, *Executive Director*

Pete Milam
December 20, 2005
Page 2

Modification of the Lake's Water Control Plan is, by nature, controversial due to the many and often competing interests. The District looks forward to working with the USACE in a collaborative manner as the USACE works to modify the Lake's Water Control Plan.

Sincerely,



Kim O'Dell
Sr. Environmental Scientist
Lake Okeechobee Division
South Florida Water Management District

Enclosure

c: Scott Burns, SFWMD
Dennis Duke, USACE
Susan Gray, SFWMD
Bob Howard, SFWMD
Beth Lewis, USACE
Elizabeth Ross, SFWMD
Garrett Wallace, SFWMD

SOUTH FLORIDA WATER MANAGEMENT DISTRICT**RESOLUTION NO. 2005-****1029**

A RESOLUTION OF THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT REQUESTING THE U.S. ARMY CORPS OF ENGINEERS, ON AN EXPEDITED BASIS, TAKE ACTIONS NECESSARY TO MODIFY THE LAKE OKEECHOBEE WATER CONTROL PLAN FOR THE PURPOSE OF ACHIEVING A MORE REFINED BALANCE BETWEEN THE COMPETING NEEDS OF THE LAKE AND ESTUARINE ECOSYSTEMS, AND THE GREATER EVERGLADES ECOSYSTEM, FLOOD CONTROL, RECREATION, AND WATER SUPPLY; AND ROUTINELY OPERATING THE LAKE AT LOWER LEVELS WHILE ADDRESSING THE MULTI-PURPOSE OBJECTIVES OF THE LAKE THROUGH INCLUDING CONSIDERATION OF THE INSTALLATION AND OPERATION OF FORWARD PUMPS; PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Water Supply and Environmental ("WSE") regulation schedule for Lake Okeechobee is established pursuant to federal law and is embodied in the Lake Okeechobee Water Control Plan ("WCP") developed concurrently with the Final Environmental Impact Statement ("FEIS") for the Lake Okeechobee Regulation Schedule Study and approved by Record of Decision dated July 7, 2000; and

WHEREAS, the U.S. Army Corps of Engineers ("COE"), Jacksonville District, issued a Notice of Intent on August 3, 2005 to prepare a Draft Supplemental Environmental Impact Statement for the Lake Okeechobee Regulation Schedule Study, that will supplement the FEIS for the Lake Okeechobee Regulation Schedule Study prepared in 2000; and

WHEREAS, the Project enabling legislation states that the Project must be maintained and operated in accordance with regulations prescribed by the Secretary of Army; and

WHEREAS, the South Florida Water Management District ("District"), as the local sponsor of the Central and Southern Flood Control Project ("Project") pursuant to section 373.103(2), Florida Statutes, is subject to and bound by the federally established Lake Okeechobee WCP; and

WHEREAS, the District may, pursuant to federal law, make recommendations or requests of the federal government concerning Lake Okeechobee operations; and

WHEREAS, the Lake Okeechobee WCP and associated federal laws recognize the multi-purpose nature of Lake Okeechobee operations and that operations provide for multi-purpose discharges from the Lake such as: flood control releases; water supply releases for estuarine, fish and wildlife, as well as human purposes; and releases for water quality purposes; and

WHEREAS, the health of Lake Okeechobee and its native plant and animal life have, for a variety of reasons, declined in recent years; and

WHEREAS, some of the primary reasons for the decline in the Lake's health include consistently high water levels due to the current decadal cycle of above normal rainfall, excessive phosphorus loading, and rapid expansion of exotic plants; and

WHEREAS, in 2004 the Lake's health was also adversely affected by several hurricanes which exacerbated existing water quality and high water level issues; and

WHEREAS, high Lake water levels have also resulted in substantial discharges to the St. Lucie Estuary and Caloosahatchee River such that concern exists regarding the health of these waterbodies; and

WHEREAS, appropriate modifications to the Lake's regulation schedule are needed to better accomplish the multi-purpose Lake functions and to benefit the Lake and estuarine ecosystems, and greater Everglades ecosystem, particularly if made in conjunction with structural changes enabling water supply deliveries from the Lake at lower levels; and

WHEREAS, installation and operation of ~~permanent~~ forward pumps and other structural changes capable of conveying water supplies and discharging water out of Lake

Okeechobee at low levels would address the Lake's multi-purpose objectives as well as a lower Lake regulation schedule; and

WHEREAS, the current regulation schedule for Lake Okeechobee can be improved to enhance the health of the Lake and estuaries, and the greater Everglades ecosystem, while addressing the Lake's multi-purpose objectives; and

**NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD
OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:**

Section 1. The Governing Board of the South Florida Water Management District requests the COE, on an expedited basis, take actions necessary to modify the Lake Okeechobee Water Control Plan, including the Lake's Water Supply and Environment Regulation Schedule, for the purpose of achieving a more refined balance between the competing needs of the Lake ecosystem, estuarine ecosystems, the greater Everglades ecosystem, flood control, recreation, and water supply; and achieving routine operation of the Lake at lower levels while addressing the Lake's multi-purpose objectives through including consideration of the installation and operation of forward pumps; and

Section 2. The Governing Board of the South Florida Water Management District intends to support its request for expeditious modification to the Lake's regulation schedule by providing the COE with appropriate technical support; and

Section 3. The Governing Board of the South Florida Water Management District requests the COE to assume the future presence of ~~permanent~~ forward pumps in some of the alternatives considered when preparing the Draft Supplemental Environmental Impact Statement for the Lake Okeechobee Regulation Study; and

Section 4. The Governing Board of the South Florida Water Management District intends to engage in the modeling and design of ~~permanent~~ forward pumps in conjunction with the COE while the COE takes actions necessary to modify the Lake Okeechobee Water Control Plan; and

Section 5. The Governing Board of the South Florida Water Management District hereby encourages member counties of the Nine-County Coalition to adopt similar Resolutions; and

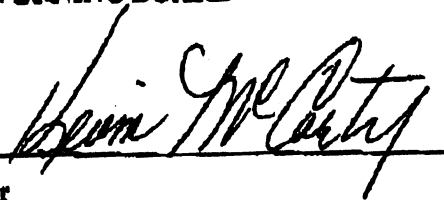
Section 6. This Resolution shall take effect immediately upon adoption.

PASSED and ADOPTED this 12 day of October, 2005.

SOUTH FLORIDA WATER
MANAGEMENT DISTRICT, BY ITS
GOVERNING BOARD

By:

Chair




ATTEST By:

District Clerk/Secretary



Approved as to form:

By:



Office of Counsel



JEB BUSH
GOVERNOR

STATE OF FLORIDA

Office of the Governor

THE CAPITOL
TALLAHASSEE, FLORIDA 32399-0001

www.flgov.com
850-488-7146
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April 28, 2006

The Honorable John Paul Woodley, Jr.
Principal Deputy Assistant Secretary of the Army
Civil Works
108 Army Pentagon, Room 3E446
Washington, DC 20310-0108

Dear Assistant Secretary Woodley:

Last night, I received a troubling report from the South Florida Water Management District about the integrity of the Herbert Hoover Dike. I am very concerned about a potential failure of the dike and the enormous impacts such a catastrophe could have on our state.

Hurricanes are a fact of life in Florida. Florida has experienced eight hurricanes – five of them major Category 3 or higher – during the last two years. As we approach the 2006 Hurricane Season, it is critical that the U.S. Army Corps of Engineers identify solutions to fortify the levee to protect the lives and property of thousands of Floridians in communities around Lake Okeechobee.

Please consider pursuing the following measures:

- Adopt a regulation schedule to keep Lake Okeechobee at lower levels through the hurricane season.
- Remove power poles from the toe of the dike.
- Begin daily inspections of the dike to ensure potential problems are identified early.
- Provide materials, equipment and personnel to make emergency repairs when vulnerabilities are identified.
- Accelerate repairs and rehabilitation currently underway.
- Reevaluate the design of the repairs to ensure they provide adequate protection.
- Develop engineering solutions to strengthen the dike against wave action, storm surges and seepage-related erosion.
- Request congressional authorization to improve the Herbert Hoover Dike to dam standards.
- Provide the best available data and evacuation support tools for hurricane threats to the State Division of Emergency Management.



Governor's Mentoring Initiative
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1-800-822-3760


The Honorable John Paul Woodley, Jr.
Page Two
April 28, 2006

I am committed to protecting the people in communities around Lake Okeechobee. My state emergency management team is briefing local officials on the status of the Herbert Hoover Dike next week. Our state team, working with county emergency management officials, will update evacuation plans to reflect this increased risk by the start of hurricane season.

A catastrophic failure of the dike will impact the lives and livelihoods of thousands of Floridians. It would be devastating to our economy, environment and quality of life. While preparing for the impacts of a dike failure is critical to prevent the loss of life, the priority should be preventing such a failure from ever occurring. For the long-term safety of residents and economic vitality of these communities, the Corps of Engineers must provide a permanent engineering solution to vulnerabilities of dike. I urge you to take immediate action to avert a potential disaster.

Thank you for your personal attention to this very important issue.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeb Bush". The signature is fluid and cursive, with the first name "Jeb" being more prominent than the last name "Bush".

Jeb Bush

cc: The Florida Delegation
South Florida Water Management District Governing Board
Craig Fugate, Director, Emergency Management
Secretary Colleen Castille, Department of Environmental Protection
The Honorable Clarence Anthony, Mayor, City of South Bay
The Honorable Steve B. Wilson, Mayor, City of Belle Glade
The Honorable J.P. Sasser, Mayor, City of Pahokee
The Honorable David McGee, Mayor, City of Moore Haven
The Honorable Randy Bengston, Mayor, City of LaBelle
The Honorable Mali Chamnes, Mayor, City of Clewiston
Palm Beach County Commission
Glades County Commission
Hendry County Commission



**DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
CIVIL WORKS
108 ARMY PENTAGON
WASHINGTON DC 20310-0108**



MAY 03 2006

Honorable Jeb Bush
Governor of Florida
The Capitol
Tallahassee, Florida 32399-0001

Dear Governor Bush:

Thank you for your letter of April 28, 2006 concerning the importance of the Herbert Hoover Dike in providing flood protection during major weather events. I share your concern for the health and safety of the residents surrounding Lake Okeechobee during the upcoming hurricane season. The U.S. Army Corps of Engineers holds public safety as its highest priority. We will continue to take actions that put protection of the public above all other considerations. Lake Okeechobee water levels are managed to minimize risks for each hurricane season. The Herbert Hoover Dike safety enhancement activities provide for a wide array of preventive and protective measures, including increased on-site inspections as the prospect of damaging storms increases.

As you know, the Herbert Hoover Dike is an earthen dam that was built with natural materials in the 1930s, according to the construction standards of the time. The dike does permit some natural seepage from Lake Okeechobee; however, in some instances, this seepage creates internal erosion of the dike, creating small, subterranean tunnels that, if undetected and unchecked, may undermine the integrity of the dike. The Corps regularly monitors for this condition and takes immediate corrective actions to prevent erosion from leading to a failure of the dike. A rehabilitation project was approved in 2000, and construction on a 4.6-mile section of the dike near Port Mayaca is currently under way. This is the first of eight sections scheduled for rehabilitation.

Further, because the Corps recognizes that the dike is more stable when the water in Lake Okeechobee is maintained between 12 and 18.5 feet, we are currently studying the possibility of revising the approved lake regulation schedule to balance estuary health, a viable lake ecosystem, water supply, and public safety. The Corps lowered the water levels to a 14-foot elevation in mid-April, well ahead of our goal to reach that level by May 1st. Achieving lower lake levels during the dry season helps to prevent larger and potentially more environmentally damaging releases from the lake during the rainy season and as tropical storms and hurricanes become a threat.

The Corps has been engaged in discussions with the South Florida Water Management District and its independent consultants regarding the Report of Expert Review Panel, Technical Evaluation of Herbert Hoover Dike. The report confirms and validates concerns that the Corps has expressed for some time now, and which we

have already begun to address. The Corps is evaluating the consultant's report and will give every consideration to its recommendations.

I will address the nine specific concerns you identified in your letter:

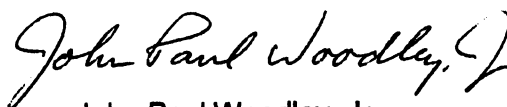
1. Lower lake level in hurricane season: Lake Okeechobee has been lowered to an acceptable lake elevation for the beginning of the 2006 hurricane season. The Corps will continue to use its current authority to maintain the lake elevation at safe levels throughout the 2007 hurricane season. Further, we are in the process of studying the possibility of revising the approved lake regulation schedule to allow the lake to be managed at a lower average level year-round.
2. Removal of power poles: The Corps has and continues to coordinate with Florida Power and Light and with the South Florida Water Management District to remove and relocate power poles constructed on the dike and within the Herbert Hoover Dike right of way. We share your goal to have all power poles relocated off Herbert Hoover Dike project limits.
3. Daily inspections: The Corps has a rigorous inspection program, the frequency of which (from once every ninety days to daily) corresponds to lake pool elevations. Potentially vulnerable areas are identified through these inspections and additional monitoring takes place, even at lower lake elevations, as necessary.
4. Materials, equipment and personnel for emergency repairs: Just as the Corps prepared for Hurricane Wilma and previous storms, it will continue to provide all necessary materials, equipment and personnel to ensure that any identified vulnerabilities in Herbert Hoover Dike are quickly and efficiently repaired. Supplies are stocked at various locations around the Herbert Hoover Dike, and equipment is prepositioned prior to predicted storms to allow immediate access and ready availability in the event a repair is necessary. The Corps is presently positioning an additional 53,000 tons of rock and stone to augment its existing supplies.
5. Acceleration of repairs and rehabilitation: We are pleased to report that the erosion containment repairs and debris removal that were required as a result of the 2005 hurricanes have been completed. The first phase of the planned Herbert Hoover Dike rehabilitation project is currently under way. The President's budget for fiscal year 2007 includes \$39.884 million, which the Corps identified as its spending capability for the Dike, to continue this rehabilitation work.
6. Repair design: Repair designs will be reevaluated to ensure optimal protection is provided under congressionally-authorized levels of protection and project requirements.
7. Engineering solutions to strengthen the dike: All engineering solutions are, and will continue to be, developed to optimize dike strengthening allowed under current congressional authorizations.

8. Congressional authorization: I will review the need for new authorization and consult with other members of the Administration to develop new recommendations for authorizations as needed.
9. Data and tools to Florida Department of Emergency Management: Through our proactive dam safety program, the Corps consistently coordinates with state agencies responsible for emergency management preparedness and response. This includes, but is not limited to, regularly scheduled coordination meetings, training and providing data and information to assist in the development and/or updating of emergency evacuation plans and overall preparedness. Finally, inundation maps have been provided to the county emergency management offices, with copies to the Florida State Dam Safety Officer and South Florida Water Management District.

The Corps welcomes independent analysis and constructive feedback, and we take the panel's recommendations and the Governor's requests very seriously. We will review and consider all of these recommendations very carefully, while the Corps continues to implement all of the measures currently under way as part of Herbert Hoover Dike safety enhancement activities. The Corps has identified dam safety, seepage, and stability correction projects as its number one funding priority and will do everything possible to prevent a breach in the Herbert Hoover Dike.

We will continue to work with all parties to protect life, property and the environment in south Florida as we contribute as partners to the management of the state's vital water resources. Please do not hesitate to contact me if I can be of further assistance.

Very truly yours,



John Paul Woodley, Jr.
Assistant Secretary of the Army
Civil Works

PD-E



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

August 24, 2006

FACSIMILE (904) 232-2200

Colonel Paul L. Grosskruger
Commander and Chief Engineer
Jacksonville District, United States Army Corps of Engineers
Post Office Box 4970
Jacksonville, FL 32232-0019

Dear Col. Grosskruger:

Subject: Lake Okeechobee Regulation Schedule

I trust that your move to the Sunshine State is going smoothly and that you are settling in comfortably. In preparation for our meetings on August 28-29 and September 12-13, this letter will provide you background about one of the most pressing issues for the South Florida Water Management District (District) and the U.S. Army Corps of Engineers (USACE) – revision of the Lake Okeechobee Regulation Schedule – the “Water Supply and Environment” (WSE) Schedule.

Lake Okeechobee provides many important functions for natural systems and human activities in Central and South Florida. Primary among these are flood protection, water storage and flows for ecosystem restoration and sustainability, outdoor recreation, wildlife habitat; and, navigation. Lake Okeechobee is also the primary source of water supply for agricultural, public and private water supply users around the lake, and it is the backup water supply for urban service areas in the Lower East Coast, including Miami-Dade, Broward and Palm Beach counties. Water from the lake also helps coastal counties prevent saltwater intrusion by maintaining appropriate canal levels.

The District, as the local sponsor, is responsible for water management operations of the Central and Southern Florida Project (C&SF Project), except for Lake Okeechobee. The USACE operates the Lake Okeechobee structures and is responsible for development of all C&SF Project regulation schedules including the Lake Okeechobee Regulation Schedule. The USACE is also responsible for maintenance of the Herbert Hoover Dike. Since 2000, we’ve been working with the USACE to implement the WSE Schedule for Lake Okeechobee water level regulation which is included in the Water Control Plan. This schedule, developed over a six-year period, was intended to improve regulation of the lake for environmental purposes over the previous schedule. Actual operation of the WSE Schedule has not lived up to its promise.

GOVERNING BOARD

Kevin McCarty, *Chair*
Irela M. Bagué, *Vice-Chair*
Miya Burt-Stewart

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Nicolás J. Cutierrez, Jr., Esq.

Lennart B. Lindahl, P.E.
Harkley R. Thornton
Malcolm S. Wade, Jr.

EXECUTIVE OFFICE

Carol Ann Wehle, *Executive Director*

**Colonel Paul L. Grosskruger
August 24, 2006
Page 3**

In June 2005, the Governing Board appointed a 28-member WRAC Lake Okeechobee Committee of WRAC members and lake/estuary stakeholders, to recommend strategies to restore and protect Lake Okeechobee and the Caloosahatchee and St. Lucie estuaries.

The status of the development of the SSM Plan and its integration with the proposed TSP, will be presented at a WRAC Issues Workshop at District Headquarters on August 28, summarized for the WRAC Lake Okeechobee Committee on August 30 in Orlando, presented to the full WRAC on September 7 in Naples, and finally presented to the SFWMD Governing Board on September 13 in West Palm Beach.

I have also attached a summary of the WRAC member (stakeholder) comments from the August 3 meeting, and the presentations regarding the above issues that were made to the WRAC Lake Okeechobee Committee by your staff and ours on August 3. Because the full WRAC does not meet in August, these comments were presented to our Governing Board on August 9, as "Stakeholder" comments by Governing Board member and WRAC Lake Okeechobee Committee Chair Malcolm "Bubba" Wade.

To help us come together on these issues, I respectfully suggest that we jointly assemble an experienced team of scientists, modelers and water management operations staff to work on these issues so that we can help you meet your goal of publishing a final Environmental Impact Statement by January 2007. As part of this process, my staff has indicated that further evaluation of possible effects of the TSP and Non-Typical Operations will occur over the next few weeks based upon all available information and comments.

I have asked Susan Gray, PhD., Deputy Director, Department of Water Resource Management and Ms. Susan Sylvester, Deputy Director, Department of Operations Control, to take the lead on assembling a comprehensive team from the District to work with the USACE on these issues. Our team will include estuarine and lake ecologists, water supply experts, modelers and our key experienced operations engineers. We urge the USACE to assign similar staff to this task, especially those with long term experience with operation of the C&SF project.

It would be helpful if you could provide an update about the status of the Independent Technical Review Team effort to evaluate the conditions of the Herbert Hoover Dike and the status of the USACE work on the design and implementation of repairs.

Colonel Paul L. Grosskruger
August 24, 2006
Page 4

Thank you very much for scheduling time to meet with me. I am looking forward to our meetings. Please call me at (561) 682-6166 to let me know your thoughts about these issues. We will work with you to focus our efforts to develop the best possible revisions to the Lake Okeechobee Regulation Schedule.

Sincerely,



Carol Ann Wehle
Executive Director
South Florida Water Management District

Attachments

c: Dennis Duke, Director, CERP Implementation, USACE
Susan Gray, Deputy Department Director, SFWMD
George Horne, Deputy Executive Director, SFWMD
Chip Merriam, Deputy Executive Director, SFWMD
Peter Milam, Project Manager, USACE
Tom Olliff, Assistant Executive Director, SFWMD
Susan Sylvester, Deputy Department Director, SFWMD

ATTACHMENT
WRAC LAKE OKEECHOBEE COMMITTEE MEMBER COMMENTS
AUGUST 3, SFWMD WRAC LAKE OKEECHOBEE COMMITTEE MEETING,
WEST PALM BEACH, FL

- **Seminole Tribe:**

- Revisions to the SFWMD Supply Side Management Plan are still being identified and evaluated and have not been part of the "TSP" evaluations. This causes concern about lower levels of the schedule and which water supply triggers will be used;
- If the "TSP" goes forward, serious water supply problems may result if there is a severe drought combined with high demand growth in the three years covered by the proposed interim schedule.

- **U.S. Fish and Wildlife Service (FWS):**

- There had been agreement on the Project Delivery Team about a high end management level of 17.5'. That has now changed to 17.25'. The USACE should wait for the new SFWMD Supply Side Management Plan to be completed, before selecting an alternative because the current "TSP" could end up being the wrong alternative.
- Significant concern about extended periods of low water under the "TSP", particularly if the lake goes below 11' more often than every 5-6 years. Don't know at this time about finding "jeopardy" for the snail kite, but may have to issue the USACE an "incidental take" finding.
- Significant concern with the "TSP" regarding extended high wet season discharges to the Caloosahatchee Basin and impacts on sea grasses, especially if flows greater than 4,500 cfs last for an additional 3-4 weeks.
- The interim schedule needs to eliminate damaging flows to the Caloosahatchee and St. Lucie estuaries.

- **Florida Fish and Wildlife Conservation Commission (FWC):**

- Adverse impacts from the proposed "TSP" will not only be more severe than the "WSE" Schedule for water supply, but also for lake ecology and the estuaries.

- **Florida Sugar Cane Growers Cooperative:**

- The Lake Okeechobee Minimum Flow and Level rule must be modified and the SFWMD Supply Side Management Plan completed if the "TSP" is to be successful.
- Concerned about building forward pumps only to have the possibility of a jeopardy opinion issued by the FWS on the snail kite which could prohibit operation of the forward pumps when the lake falls below 10'. Asked for assurances from the FWS that pumps can be operated once built.

ATTACHMENT
WRAC LAKE OKEECHOBEE COMMITTEE MEMBER COMMENTS
AUGUST 3, SFWMD WRAC LAKE OKEECHOBEE COMMITTEE MEETING,
WEST PALM BEACH, FL

- **Seminole Tribe:**

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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October 4, 2006

Dennis R. Duke, P.E.
Chief, Restoration Program Division
U.S. Army Corps of Engineers
Jacksonville District
PO Box 4970
CESAJ-DR
Jacksonville, FL 32232-0019

Dear Mr. ~~Duke~~ *Dennis*

I understand from speaking with David Apple and Dan Crawford that U.S. Army Corps of Engineers (USACE) will be conducting sensitivity runs regarding the Tentatively Selected Plan (TSP) for the Lake Okeechobee Regulation Schedule Study (LORSS) in response – in part – to public comments received on the Supplemental Environmental Impact Statement (SEIS). I also understand there is some uncertainty on the part of USACE's management as to whether to include the latest version of South Florida Water Management District's (District) DRAFT Lake Okeechobee Water Shortage Management (LOWSM) Plan – formerly referred to as Supply-Side Management (SSM) – as part of the sensitivity run. I believe that the current version of the LOWSM plan should be included as part of the sensitivity runs based on the following:

- The one-foot lower SSM trigger line used in the TSP was a surrogate – provided at USACE's request in Feb. 2006 to meet the LORSS schedule for completion in Jan. 2007 – for the revised SSM plan now known as LOWSM. We believe the LOWSM assumptions now constitute the best available information and should be used in place of the one-foot surrogate.
- The LOWSM Plan – although not formally adopted by the SFWMD GB – was discussed at both the September WRAC and GB meetings with no objections noted.
- The LOWSM Plan was discussed at a meeting in late August of agricultural interests and no objections were noted.
- The LOWSM Plan improved water supply performance with no deleterious effects to other performance measures.
- Having raised concerns regarding this issue several times over the past few months, it was the District's understanding that USACE's strategy of modeling the TSP and a sensitivity run with the current trigger line – both included in the SEIS – provided two end members, and as long as LOWSM performance fell between these two end members, then the LOWSM Plan would be included without affecting the LORSS project schedule.

GOVERNING BOARD

Kevin McCarty, *Chair*
Irela M. Bagué, *Vice-Chair*
Miya Burt-Stewart

Alice J. Carlson
Michael Collins
Nicolás J. Gutiérrez, Jr., Esq.

EXECUTIVE OFFICE

Lennart E. Lindahl, P.E.
Harkley R. Thornton
Malcolm S. Wade, Jr.

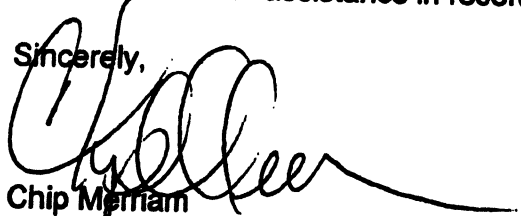
Carol Ann Wehle, *Executive Director*

Mr. Dennis Duke
October 4, 2006
Page 2

- To the extent that some of the TSP sensitivity run assumptions attempt to improve estuary performance measures – most likely at the expense of water supply performance – it would seem prudent to incorporate the LOWSM plan assumptions that might ameliorate these effects.
- It's my understanding that a conversation between you, Mr. Michael Collins, SFWMD Governing Board Member, and Scott Burns resulted in an understanding that the final TSP would include the LOWSM Plan.

For these reasons, I think it is prudent to incorporate LOWSM Plan assumptions into any TSP sensitivity runs to be conducted by USACE in the near future. Please advise if I can be of further assistance in resolving this matter.

Sincerely,



Chip Merriam
Deputy Executive Director
Water Resources

cm/le

c: Pete Kwiatkowski
Pete Milam, USACE

NEPA Coordination



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

21 July 2005

REPLY TO
ATTENTION OF

Planning Division
Environmental Division

TO WHOM IT MAY CONCERN:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is beginning preparation of a Draft Supplemental Environmental Impact Statement (DSEIS) for the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida (C&SF) Project for Flood Control and other purposes, Lake Okeechobee, Florida. The DSEIS will supplement the Final Environmental Impact Statement for the LORSS prepared in 2000.

Lake Okeechobee is located in south-central Florida, about 60 miles south of Orlando, and 40 miles northwest of Miami, within Okeechobee, Glades, Palm Beach, Martin, and Hendry Counties (Figure 1, location map). The area of interest includes a large watershed north of the lake, the lake itself, and several downstream natural ecosystems (St. Lucie Estuary, Caloosahatchee Estuary, Everglades Protection Area, Lake Worth Lagoon), as well as large agricultural and urban areas that use water from the lake (Figure 2, study area map). The lake receives water from the Kissimmee River and other tributaries located to the north and west, and discharges water primarily to the west, east, and south, via drainage canals that are part of the Central and Southern Florida Flood Control Project. The lake has multiple purposes including flood control, navigation, water supply, recreation, and habitat for fish and wildlife.

The current regulation schedule, Water Supply and Environment (WSE), was the preferred alternative in the LORSS FEIS and was approved in July 2000 for the regulation of Lake Okeechobee. The WSE regulation schedule and the Operational Guidelines Decision Trees incorporate tributary hydrologic conditions and climate forecasts into guidelines for managing Lake Okeechobee discharges and water levels. This logic-driven regulation schedule balances the various purposes of flood storage, water supply, fish and wildlife resources, and water delivery to the St. Lucie and Caloosahatchee estuaries. The unusual range of weather conditions occurring since implementation of the WSE regulation schedule and the lessons learned as a result, have indicated that modifications to WSE

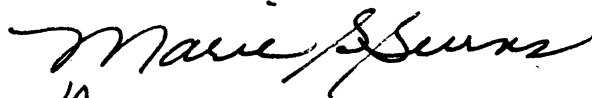
are needed. The regulation schedule would benefit from greater flexibility in achieving optimal lake levels and optimal discharges to various downstream parts of the C&SF system.

The DSEIS will analyze reasonable alternatives to the WSE regulation schedule, including the WSE, or "no action" alternative, to regulating lake levels and discharges to various parts of the downstream system. This study will consider operational changes to water management structures that discharge water from the lake as well as criteria used to determine those operations. Any operational changes will also consider current and planned water management activities within the Kissimmee River Basin. No new structural features will be considered except those already embedded within the South Florida Water Management Model.

Specific issues anticipated include concern for: municipal, agricultural, and industrial water supply, continued flood protection, protection of the lake's environmental resources and its downstream estuaries, water quality, fish and wildlife habitat, endangered and threatened species, and any issues identified through scoping and public involvement.

At this time, we welcome your views, comments and information about environmental and cultural resources, study objectives and important issues within the described study area. Letters of comment or inquiry should be addressed to the letterhead address to the attention of the Planning Division, Environmental Branch, Special Projects Section, and received by this office within sixty (60) days of the date of this letter.

Sincerely,


Stuart J. Appelbaum
Chief, Planning Division

Enclosure



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JAN 11 2006

Mr. David Bernhart
Assistant Regional Administrator, Protected Resources
National Marine Fisheries Service, Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

Dear Mr. Bernhart:

This is in reference to the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida (C&SF) Project for Flood Control and other purposes, Lake Okeechobee, Florida. The study is being conducted to evaluate possible alternatives to the existing Water Supply and Environment (WSE) regulation schedule. For a description of the LORSS, please refer to the enclosed scoping letter dated July 21, 2005.

At this time, the U.S. Army Corps of Engineers (Corps) would like to invite your agency's participation on the Project Delivery Team. Input from the National Marine Fisheries Service would assist the study team in formulating alternatives to be modeled and assessing their performance. The Corps is working expeditiously on the LORSS, as we know the importance and urgency in modifying the regulation schedule. Our schedule for selecting a recommended plan is in early 2006, with completion of a draft Supplemental Environmental Impact Statement shortly thereafter.

The Project Delivery Team will be meeting on a weekly basis through teleconference or video conference. Mr. Pete Milam, study team Project Manager, will be coordinating the weekly meetings via electronic mail. Meeting coordination questions can be directed to Mr. Milam by telephone at 904-232-3432, or electronic mail at j.p.milam@usace.army.mil.

The Corps appreciates your contribution of expertise to the LORSS Project Delivery Team. We look forward to working with you on this very important and timely project. Should you have any questions, please contact Ms. Yvonne Haberer, Environmental Technical Lead for the LORSS, at 904-232-1701 or electronic mail at yvonne.l.haberer@usace.army.mil.

Sincerely,

Marie G. Burns
Chief, Environmental Branch

Enclosure



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JAN 11 2006

Mr. Miles M. Croom, Assistant Regional Administrator
Habitat Conservation Division
National Marine Fisheries Service, Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

Dear Mr. Croom:

This is in reference to the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida (C&SF) Project for Flood Control and other purposes, Lake Okeechobee, Florida. The study is being conducted to evaluate possible alternatives to the existing Water Supply and Environment (WSE) regulation schedule. For a description of the LORSS, please refer to the enclosed scoping letter dated July 21, 2005.

At this time, the U.S. Army Corps of Engineers (Corps) would like to invite your agency's participation on the Project Delivery Team. Input from the National Marine Fisheries Service would assist the study team in formulating alternatives to be modeled and assessing their performance. The Corps is working expeditiously on the LORSS, as we know the importance and urgency in modifying the regulation schedule. Our schedule for selecting a recommended plan is in early 2006, with completion of a draft Supplemental Environmental Impact Statement shortly thereafter.

The Project Delivery Team will be meeting on a weekly basis through teleconference or video conference. Mr. Pete Milam, study team Project Manager, will be coordinating the weekly meetings via electronic mail. Meeting coordination questions can be directed to Mr. Milam by telephone at 904-232-3432, or electronic mail at j.p.milam@usace.army.mil.

The Corps appreciates your contribution of expertise to the LORSS Project Delivery Team. We look forward to working with you on this very important and timely project. Should you have any questions, please contact Ms. Yvonne Haberer, Environmental Technical Lead for the LORSS, at 904-232-1701 or electronic mail at yvonne.l.haberer@usace.army.mil.

Sincerely,

Marie G. Burns
Chief, Environmental Branch

Enclosure



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JAN 11 2006

Mr. James J. Slack
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559

Dear Mr. Slack:

This is in reference to the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida (C&SF) Project for Flood Control and other purposes, Lake Okeechobee, Florida. The study is being conducted to evaluate possible alternatives to the existing Water Supply and Environment (WSE) regulation schedule. For a description of the LORSS, please refer to the enclosed scoping letter dated July 21, 2005.

At this time, the U.S. Army Corps of Engineers (Corps) would like to invite your agency's participation on the Project Delivery Team. Input from the U.S. Fish and Wildlife Service would assist the study team in formulating alternatives to be modeled and assessing their performance. The Corps is working expeditiously on the LORSS, as we know the importance and urgency in modifying the regulation schedule. Our schedule for selecting a recommended plan is in early 2006, with completion of a draft Supplemental Environmental Impact Statement shortly thereafter.

The Project Delivery Team will be meeting on a weekly basis through teleconference or video conference. Mr. Pete Milam, study team Project Manager, will be coordinating the weekly meetings via electronic mail. Meeting coordination questions can be directed to Mr. Milam by telephone at 904-232-3432, or electronic mail at j.p.milam@usace.army.mil.

The Corps appreciates your contribution of expertise to the LORSS Project Delivery Team. We look forward to working with you on this very important and timely project. Should you have any questions, please contact Ms. Yvonne Haberer, Environmental Lead for the LORSS, at 904-232-1701 or electronic mail at yvonne.l.haberer@usace.army.mil.

Sincerely,

Marie G. Burns
Chief, Environmental Branch

Enclosure



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JAN 12 2006

Mr. Greg Knecht
Department of Environmental Protection
Water Quality and Special Projects Program
2600 Blair Stone Road-MS 3560
Tallahassee, Florida 32399-2400

Dear Mr. Knecht:

This is in reference to the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida (C&SF) Project for Flood Control and other purposes, Lake Okeechobee, Florida. The study is being conducted to evaluate possible alternatives to the existing Water Supply and Environment (WSE) regulation schedule. For a description of the LORSS, please refer to the enclosed scoping letter dated July 21, 2005.

At this time, the U.S. Army Corps of Engineers (Corps) would like to invite your agency's participation on the Project Delivery Team. Input from the Department of Environmental Protection would assist the study team in formulating alternatives to be modeled and assessing their performance. The Corps is working expeditiously on the LORSS, as we know the importance and urgency in modifying the regulation schedule. Our schedule for selecting a recommended plan is in early 2006, with completion of a draft Supplemental Environmental Impact Statement shortly thereafter.

The Project Delivery Team will be meeting on a weekly basis through teleconference or video conference. Mr. Pete Milam, study team Project Manager, will be coordinating the weekly meetings via electronic mail. Meeting coordination questions can be directed to Mr. Milam by telephone at 904-232-3432, or electronic mail at j.p.milam@usace.army.mil.

The Corps appreciates your contribution of expertise to the LORSS Project Delivery Team. We look forward to working with you on this very important and timely project. Should you have any questions, please contact Ms. Yvonne Haberer, Environmental Technical Lead for the LORSS, at 904-232-1701, or electronic mail at yvonne.l.haberer@usace.army.mil.

Sincerely,

Marie G. Burns
Chief, Environmental Branch

Enclosure



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JAN 11 2006

Ms. Mary Ann Poole, Director
Office of Policy and Stakeholder Coordination
Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600

Dear Ms. Poole:

This is in reference to the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida (C&SF) Project for Flood Control and other purposes, Lake Okeechobee, Florida. The study is being conducted to evaluate possible alternatives to the existing Water Supply and Environment (WSE) regulation schedule. For a description of the LORSS, please refer to the enclosed scoping letter dated July 21, 2005.

At this time, the U.S. Army Corps of Engineers (Corps) would like to invite your agency's participation on the Project Delivery Team. Input from the Florida Fish and Wildlife Conservation Commission would assist the study team in formulating alternatives to be modeled and assessing their performance. The Corps is working expeditiously on the LORSS, as we know the importance and urgency in modifying the regulation schedule. Our schedule for selecting a recommended plan is in early 2006, with completion of a draft Supplemental Environmental Impact Statement shortly thereafter.

The Project Delivery Team will be meeting on a weekly basis through teleconference or video conference. Mr. Pete Milam, study team Project Manager, will be coordinating the weekly meetings via electronic mail. Meeting coordination questions can be directed to Mr. Milam by telephone at 904-232-3432, or electronic mail at j.p.milam@usace.army.mil.

The Corps appreciates your contribution of expertise to the LORSS Project Delivery Team. We look forward to working with you on this very important and timely project. Should you have any questions, please contact Ms. Yvonne Haberer, Environmental Technical Lead for the LORSS, at 904-232-1701, or electronic mail at yvonne.l.haberer@usace.army.mil.

Sincerely,

Marie G. Burns
Chief, Environmental Branch

Enclosure



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JAN 12 2006

Ms. Kim Shugar
Department of Environmental Protection
Ecosystem Program Department
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Dear Ms Shugar:

This is in reference to the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida (C&SF) Project for Flood Control and other purposes, Lake Okeechobee, Florida. The study is being conducted to evaluate possible alternatives to the existing Water Supply and Environment (WSE) regulation schedule. For a description of the LORSS, please refer to the enclosed scoping letter dated July 21, 2005.

At this time, the U.S. Army Corps of Engineers (Corps) would like to invite your agency's participation on the Project Delivery Team. Input from the Department of Environmental Protection would assist the study team in formulating alternatives to be modeled and assessing their performance. The Corps is working expeditiously on the LORSS, as we know the importance and urgency in modifying the regulation schedule. Our schedule for selecting a recommended plan is in early 2006, with completion of a draft Supplemental Environmental Impact Statement shortly thereafter.

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The Corps appreciates your contribution of expertise to the LORSS Project Delivery Team. We look forward to working with you on this very important and timely project. Should you have any questions, please contact Ms. Yvonne Haberer, Environmental Technical Lead for the LORSS, at 904-232-1701, or electronic mail at yvonne.l.haberer@usace.army.mil.

Sincerely,

Marie G. Burns
Chief, Environmental Branch

Enclosure



REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

JUL 02 2007

TO WHOM IT MAY CONCERN:

Pursuant to the National Environmental Policy Act (NEPA), enclosed for your review and comment is a copy of the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida.

Any comments you may have on the draft SEIS must be submitted in writing to the letterhead address or the following email address: LORSSComments@saj02.usace.army.mil. All comments must be received within 45 days from the date on which the notice of availability appears in the Federal Register, which is expected to be on July 6, 2007. If you know others who may wish to comment on this Revised Draft SEIS, please advise them of this request for public comments. Any questions concerning the Revised Draft SEIS should be directed to Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie G. Burns", is written over a horizontal line.

Marie G. Burns
Chief, Environmental Branch

Enclosure



REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

JUL 02 2007

TO WHOM IT MAY CONCERN:

Pursuant to the National Environmental Policy Act and U.S. Army Corps of Engineers Regulation (33 CFR 230.11), this letter constitutes the Notice of Availability of the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule.

A copy of the Revised Draft SEIS is available for viewing on the U.S. Army Corps of Engineers environmental webpage under Hendry, Glades, Lee, Martin, Palm Beach or Okeechobee Counties, "Lake Okeechobee Regulation Schedule", Revised Draft SEIS at <http://planning.saj.usace.army.mil/envdocs/envdocsb.htm>. Additionally, a copy of the Revised Draft SEIS is available for viewing at the following libraries:

Fort Myers-Lee County Public Library
2050 Central Ave.
Fort Myers, Florida 33901
Phone:(239) 479-4635

Clewiston Public Library
120 W. Osceola Ave.
Clewiston, Florida 33440
Phone:(863) 983-1493

Okeechobee County Public Library
206 S.W. 16th Street
Okeechobee, Florida 34974
Phone:(863) 763-3536

Martin County Blake Library
2351 S.E. Monterey Rd.
Stuart, Florida 34996
Phone:(772) 288-5702


Palm Beach County Library
3650 Summit Blvd.
West Palm Beach, Florida 33406
Phone:(561) 233-2600

Glades County Public Library
201 Riverside Drive
Moore Haven, Florida 33471
Phone:(866) 946-0744

Comments or questions concerning the Revised Draft SEIS can be directed to Ms. Yvonne Haberer, Planning Division, Environmental Branch, at the letterhead address, or telephone 904-232-1701, or fax 904-232-3442. In addition, comments on the draft SEIS can be provided at the following email address: LORSSComments@saj02.usace.army.mil.

All comments must be received within 45 days from the date on which the notice of availability appears in the Federal Register, which is expected to be on July 6, 2007.

Sincerely,



Marie G. Burns
Chief, Environmental Branch



REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

JUL 02 2007

Ms. Lauren P. Milligan
Florida Department of Environmental Protection
State Clearinghouse
3900 Commonwealth Boulevard, MS 47
Tallahassee, Florida 32399-3000

Dear Ms. Milligan:

Pursuant to the National Environmental Policy Act, enclosed for State agency review and comment are 16 copies of the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida.

Any comments you may have must be submitted in writing to the letterhead address within 45 days from the date on which the notice of availability appears in the Federal Register, which is expected to be on July 6, 2007. Any questions concerning the Revised Draft SEIS should be directed to Ms. Yvonne Haberer at 904-232-1701, or email at: yvonne.l.haberer@usace.army.mil.

Sincerely,

Marie G. Burns
Chief, Environmental Branch

Enclosures



REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

JUL 02 2007

Director, Office of Environmental Policy and Compliance
Department of the Interior
Main Interior Building, MS 2342
1849 C Street, NW
Washington, DC 20240

Dear Sir/Madam:

Pursuant to the National Environmental Policy Act and U.S. Army Corps of Engineers Regulation (33 CFR 230.11), this letter constitutes the Notice of Availability of the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida.

Enclosed are 12 copies of the Revised Draft SEIS document to distribute to appropriate Interior bureaus for review. Comments or questions can be directed to Ms. Yvonne Haberer at the letterhead address, or telephone at 904-232-1701, or email at yvonne.l.haberer@usace.army.mil. All comments must be received within 45 days from the date on which the Notice of Availability appears in the Federal Register, which is expected to be on July 6, 2007.

Sincerely,

Marie G. Burns
Chief, Environmental Branch

Enclosures



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JUL 02 2007

Mr. Paul Souza
South Florida Ecosystem Office
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559

Dear Mr. Souza:

Pursuant to the National Environmental Policy Act and U.S. Army Corps of Engineers Regulation (33 CFR 230.11), this letter constitutes the Notice of Availability of the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida.

All comments must be received within 45 days from the date on which the Notice of Availability appears in the Federal Register, which is expected to be on July 6, 2007. If you have any questions, please contact Ms. Yvonne Haberer at 904-232-1701, or email at yvonne.l.haberer@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie G. Burns", is written over the typed name.

Marie G. Burns
Chief, Environmental Branch

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

JUN 27 2007

Planning Division
Environmental Branch

Dear Librarian:

Enclosed is a copy of the Revised Draft Supplemental Environmental Impact Statement for the Lake Okeechobee Regulation Schedule. This is being provided for public review pursuant to the National Environmental Policy Act. We request that you make the copy available for public viewing in the reference section of your library for a period of 90 days, after which they may be disposed.

Thank you for your assistance in this matter. If you have any questions or need further information, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in cursive script, reading "Marie G. Burns".

Marie G. Burns
Chief, Environmental Branch

Enclosures



REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4870
JACKSONVILLE, FLORIDA 32232-0019

JUL 05 2007

Mr. Miles Croom
Assistant Regional Administrator
Habitat Conservation Division
National Marine Fisheries Service
263 13th Avenue South
St. Petersburg, Florida 33701

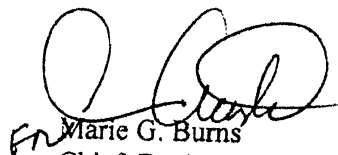
Dear Mr. Croom:

Pursuant to the National Environmental Policy Act (NEPA), enclosed for your review and comment is a copy of the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida. The Revised Draft SEIS also constitutes our Essential Fish Habitat (EFH) Assessment as required by the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). With this letter, we are initiating EFH consultation with your agency.

The U.S. Army Corps of Engineers has determined the proposed action will not adversely affect EFH or other marine resources.

We request your comments pursuant to NEPA and MSFCMA within 45 days from the date on which the notice of availability appears in the Federal Register, which is expected to be on July 6, 2007. If you have any questions or need further information, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,


Marie G. Burns
Chief, Environmental Branch

Enclosure

Copies Furnished:

Mr. Rickey N. Ruebsamen, National Marine Fisheries Service, 3500 Delwood Beach Road,
Panama City, Florida 32408-7499
Mr. Pace Wilber, National Marine Fisheries Service, 219 Fort Johnson Road, Charleston, South
Carolina 29412-9110



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

JUN 20 2007

Planning Division
Environmental Branch

Ms. Pearl Young
U.S Environmental Protection Agency
Office of Federal Activities
NEPA Compliance Division, EIS Filing Section
Ariel Rios Building (South Oval Lobby), Room 7241
1200 Pennsylvania Avenue NW
Washington, DC 20004

Dear Ms. Young:

Pursuant to § 1506.9 Title 40 of the Code of Federal Regulations, enclosed are five copies of the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida. We request that you publish the Notice of Availability for this Revised Draft SEIS in the Federal Register on July 6, 2007.

The Revised Draft SEIS is also available on the Internet at:
<http://planning.saj.usace.army.mil/envdocs/envdocsb.htm>. If you have any question please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in black ink, reading "Kenneth R. Burns".

Handwritten initials in black ink, possibly "MB".

Marie G. Burns
Chief, Environmental Branch

Enclosures

sign an agreement to protect the information from unauthorized release and to handle it in accordance with the *FIFRA Information Security Manual*. In addition, Management Support Technology, Inc. and its subcontractor, System Integration Group, Inc., are required to submit for EPA approval a security plan under which any CBI will be secured and protected against unauthorized release or compromise. No information will be provided to Management Support Technology, Inc. and its subcontractor, System Integration Group, Inc., until the requirements in this document have been fully satisfied. Records of information provided to Management Support Technology, Inc. and its subcontractor, System Integration Group, Inc., will be maintained by EPA Project Officers for this contract. All information supplied to Management Support Technology, Inc. and its subcontractor, System Integration Group, Inc., by EPA for use in connection with this contract will be returned to EPA when Management Support Technology, Inc. and its subcontractor, System Integration Group, Inc., have completed their work.

List of Subjects

Environmental protection, Business and industry, Government contracts, Government property, Security measures.

Dated: June 25, 2007.

Robert A. Forrest,
Acting Director, Office of Pesticide Programs.
[FR Doc. E7-13005 Filed 7-5-07; 8:45 am]
BILLING CODE 6560-50-2

ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-6688-7]

Environmental Impact Statements and Regulations; Availability of EPA Comments

Availability of EPA comments prepared pursuant to the Environmental Review Process (ERP), under section 309 of the Clean Air Act and Section 102(2)(c) of the National Environmental Policy Act as amended. Requests for copies of EPA comments can be directed to the Office of Federal Activities at 202-564-7167.

An explanation of the ratings assigned to draft environmental impact statements (EISs) was published in the *Federal Register* dated April 6, 2007 (72 FR 17156).

Draft EISs

EIS No. 20070089, ERP No. D-MMS-A09833-00, PROGRAMMATIC—Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf, Implementation, Atlantic, Gulf of Mexico, Pacific and Alaska.

Summary: EPA does not object to the proposed action. Rating LO.

EIS No. 20070131, ERP No. D-IBR-G39048-NM, Navajo-Gallup Water Supply Project, To Provide a Long-Term (Year 2040) Water Supply, Treatment and Transmission of Municipal and Industrial (M&I) Water to Navajo National and Jicarilla Apache Nation, City of Gallup, New Mexico.

Summary: EPA does not object to the proposed action. Rating LO.

Final EISs

EIS No. 20070157, ERP No. F-MMS-A02244-00, Outer Continental Shelf Oil & Gas Leasing Program: 2007-2012, Exploration and Development Offshore Marine Environment and Coastal Counties of AL, AK, DE, FL, LA, MD, MS, NJ, NC, TX, and VA.

Summary: EPA does not object to the proposed action.

EIS No. 20070195, ERP No. F-AFS-L65514-AK, Traitors Cove Timber Sale Project, Timber Harvest and Road Construction, Implementation, Revillagigedo Island, Ketchikan-Misty Fiords Ranger District, Tongass National Forest, AK.

Summary: EPA continues to have environmental concerns about potential cumulative water quality impacts.

EIS No. 20070201, ERP No. F-FHW-H40188-00, US 59—Amelia Earhart Memorial Bridge over the Missouri River, Construction from Atchison, Kansas to U.S. 59/State Route 45 Intersection, US Coast Guard Section 9 Permit and U.S. Army COE Section 10 and 404 Permits, Atchison, KS and Buchanan County, MO.

Summary: No formal comment letter was sent to the preparing agency.

EIS No. 20070202, ERP No. F-AFS-L65497-ID, South Fork Salmon River Subbasin Noxious and Invasive Weed Management Program, Implementation, Krassel and McCall Ranger Districts, Payette National Forest and Cascade Ranger District, Valley and Idaho Counties, ID.

Summary: EPA's previous concerns have been resolved; therefore, EPA does not object to the proposed action.

EIS No. 20070232, ERP No. F-FHW-H50002-00, Bellevue Bridge Study,

To Improve Connectivity between the Omaha Metropolitan Area and across the Missouri River from U.S. 75 to I-29, Coast Guard Permit, NPDES Permit, U.S. Army COE Section 10 and 404 Permits, Mills County, IA and Sarp County, NE.

Summary: EPA's previous issues have been resolved; therefore, EPA does not object to the action as proposed.

Dated: July 2, 2007.

Robert Hargrove,
Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. E7-13093 Filed 7-5-07; 8:45 am]

BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-6688-6]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564-7167 or <http://www.epa.gov/compliance/nepa/>.

Weekly receipt of Environmental Impact Statements

Filed 06/25/2007 Through 06/29/2007 Pursuant to 40 CFR 1506.9.

EIS No. 20070265, Final EIS, AFS, CA, Pilgrim Vegetation Management Project, Proposed Restoration of Forest Health and Ecosystem, Implementation, Shasta-Trinity National Forest, Siskiyou County, CA, Wait Period Ends: 08/06/2007.

Contact: Dennis Poehlmann 530-926-9656. This document is available on the Internet at: <http://www.fs.fed.us/r5/shastatrinity/projects/smmu-projects.shtml>.

EIS No. 20070266, Draft EIS, SFW, 00, Lake Umbagog National Wildlife Refuge, Comprehensive Conservation Plan, 15 Year Guidance for Management of Refuge Operations, Habitat and Visitor Services, Implementation, Coos County, NH and Oxford County, ME. Comment Period Ends: 08/20/2007. Contact: Nancy McGarigal 413-253-8562.

~~EIS No. 20070267, Second Draft Supplement, COE, FL, Lake Okeechobee Regulation Schedule Study, New Updated Information, Evaluation of Three New Alternatives on Operational Changes to the Current Water Control Plan, Lake Okeechobee and the Everglades Agricultural Area, Lake Okeechobee, Glades Okeechobee, Hendry, Palm Beach and Martin Counties, FL. Comment Period Ends: 08/20/2007. Contact: Yvonne L. Haber 904-232-1701.~~

ESA Coordination

National Marine Fisheries Service



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue S.
St. Petersburg, FL 33701
(727) 824-5312, FAX 824-5309
<http://sero.nmfs.noaa.gov>

SEP 13 2005

F/SER31: SN

Mr. Stuart Appelbaum
Chief, Planning Division
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. Appelbaum:

This correspondence responds to the Department of the Army's (Army) letter requesting comments on potential resource issues for the Lake Okeechobee Regulation Schedule Study (LORSS) and Central and Southern Florida (C&SF) Study. The Army is beginning preparation of a Draft Supplemental Environmental Impact Statement (DSEIS) for the LORSS and C&SF studies. The DSEIS will supplement the Final EIS for the LORSS prepared in 2000.

The LORSS and C&SF studies involve watersheds north of Lake Okeechobee and several downstream ecosystems (St. Lucie Estuary, Caloosahatchee Estuary, Everglades Protection Area, and Lake Worth Lagoon). The LORSS and C&SF studies involve developing flood control and water supply from Lake Okeechobee to areas downstream.

Johnson's seagrass (*Halophila johnsonii*) and its critical habitat are located along the east coast of Florida between Sebastian Inlet and Biscayne Bay. The smalltooth sawfish (*Pristis pectinata*) was listed as endangered on April 1, 2003. Mote Marine Laboratory's sightings data indicate the current distribution of smalltooth sawfish has contracted to peninsular Florida.

We recommend that the Army evaluate the potential impact that freshwater discharges may have on Johnson's seagrass, Johnson's seagrass critical habitat, and smalltooth sawfish.

We look forward to continued cooperation with the Army in conserving our endangered and threatened resources. If you have any questions regarding these comments, please contact



Ms. Shelley Norton, natural resource specialist, at (727) 824-5312, or by e-mail at shelley.norton@noaa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Bernhart", with a long horizontal flourish extending to the right.

David Bernhart
Assistant Regional Administrator
for Protected Resources

File: 1514-22.f.1.FL
Ref: I/SER/2005/04702



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

AUG 10 2006

Mr. David Bernhart
Assistant Regional Administrator, Protected Resources
National Marine Fisheries Service
263 13th Avenue South
St. Petersburg, Florida 33701

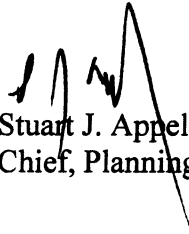
Dear Mr. Bernhart:

Pursuant to the National Environmental Policy Act (NEPA), enclosed for your review and comment is a copy of the draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida. The draft SEIS also constitutes our Biological Assessment as required by the Endangered Species Act (ESA) of 1973, as amended.

The U.S. Army Corps of Engineers has determined that implementation of the preferred alternative regulation schedule documented in the draft SEIS may affect, but will not likely adversely affect, Johnson's seagrass (*Halophila johnsonii*) or the smalltooth sawfish (*Pristis pectinata*).

We request your concurrence with our determination of effects pursuant to the ESA. We also request comments pursuant to NEPA within 45 days from the date on which the notice of availability appears in the Federal Register, which is expected to be on August 18, 2006. If you have any questions or need further information, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,


Stuart J. Appelbaum
Chief, Planning Division

Enclosure



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
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F/SER31:AL

SEP 27 2006

Ms. Yvonne Haberer
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232

Dear Ms. Haberer:

This responds to your August 10, 2006, letter regarding the Corps of Engineers' (COE) request for Endangered Species Act (ESA) section 7 consultation on the draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule Study (LORSS). You stated that the draft SEIS constitutes the COE's Biological Assessment. According to the draft SEIS, the purpose of the LORSS is to implement a new water regulation schedule that would improve the health of Lake Okeechobee and the St. Lucie and Caloosahatchee estuaries, while ensuring public health and safety with minimal to no impact on competing project (lake) purposes. The project area includes Lake Okeechobee, the Caloosahatchee River and Estuary, the St. Lucie River and Estuary, Water Conservation Areas, and the Everglades Agricultural Area. You stated that implementation of the preferred alternative in the draft SEIS may affect but is not likely to adversely affect the endangered smalltooth sawfish (*Pristis pectinata*) and the threatened Johnson's seagrass (*Halophila johnsonii*) and requested the National Marine Fisheries Service's (NMFS) concurrence.

NMFS has reviewed the draft SEIS; the information provided is insufficient for us to evaluate the direct, indirect, and cumulative effects of the preferred alternative on listed species designated under the ESA within our purview. We have enclosed NMFS' Recommendations for the Contents of Biological Assessments (BAs) and Biological Evaluations (BEs) and encourage the COE to follow these recommendations. In order to evaluate the range of possible effects to listed species, NMFS requests that the COE's BA be amended to address the following:

1. Fully describe all possible direct, indirect, and cumulative effects to listed species from the preferred alternative (see enclosed, refer to definitions on page 3).
2. Fully describe interrelated and interdependent actions (see enclosed, page 3).
3. Please provide the best available information concerning seagrasses that may be present at the mouth of the St. Lucie and Caloosahatchee Rivers. We are especially concerned regarding potential effects to Johnson's seagrass that may be present at or in close proximity to the mouth of the St. Lucie River. Please state whether Johnson's seagrass will be directly or indirectly affected by the proposed freshwater releases. A seagrass survey within the action area may be needed to determine presence or absence of Johnson's seagrass. The St. Lucie Inlet is designated critical habitat for Johnson's seagrass. The revised BA should clearly state whether the St. Lucie Inlet is part of the action area for the proposed project. If the St. Lucie Inlet is part of the action area, the



COE should make a determination regarding designated critical habitat for Johnson's seagrass.

4. Please state whether mangroves would be affected by the proposed freshwater releases.
5. The draft SEIS states flow range greater than 2800 cfs can be significantly damaging to the estuary (page 125). Please state the time of year when high-volume releases (i.e., releases greater than 2800 cfs) would occur and what is the anticipated frequency of high-volume releases into the St. Lucie and Caloosahatchee Rivers.
6. Describe after-action changes to the action area.
7. Describe measures that will be implemented to avoid or minimize adverse effects and enhance beneficial effects to listed species and their habitats (whether designated or not).

Also enclosed are Johnson's seagrass survey guidelines. Johnson's seagrass surveys must be conducted during the growing season between April 1st and August 31st.

Section 7 allows NMFS up to 90 days to conclude formal consultation with your agency, and an additional 45 days to prepare our biological opinion (unless we mutually agree to an extension). Therefore, if formal consultation is necessary, our anticipated biological opinion completion date is 135 days from the date of our receipt of the information requested above. The ESA requires that, after initiation of formal consultation, the federal action agency must make no irreversible or irretrievable commitment of resources that limits future options. This practice ensures agency actions do not preclude the formulation and implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species, or destroying or modifying their critical habitats. If the information we have requested from the COE and the applicant allows us to determine that the section 7 consultation can be accomplished informally, NMFS will respond within 30 calendar days if possible.

If you have any questions, please contact Audra Livergood, Fisheries Biologist, at (305) 595-8352, or by e-mail at Audra.Livergood@noaa.gov.

Sincerely,



David M. Bernhart
Assistant Regional Administrator
for Protected Resources

Enclosures (2)

cc: FSER47: Jocelyn Karazsia, HCD
Victoria Foster, EPA

File: 1514-22 F.1 FL JSG
Ref: T/SER/2006/04089

Haberer, Yvonne L SAJ

From: Audra Livergood [Audra.Livergood@noaa.gov]
Sent: Monday, October 02, 2006 1:46 PM
To: Haberer, Yvonne L SAJ
Cc: Teletha Mincey; Eric Hawk
Subject: Re: Email address

Attachments: 04089_LORSS_RAI_Final.pdf; MMLTechReport1070-1_smalltooth sawfish.pdf



04089_LORSS_RAI MMLTechReport107
_Final.pdf (110... 0-1_smalltooth...

Hi Yvonne,

Thanks for the call today. As per our discussion, please find attached the electronic version of our RAI letter in response to the draft SEIS for the Lake Okeechobee regulation schedule study proposed modifications and the Mote Marine Lab Technical Report on the Movement and habitat use of smalltooth sawfish. I have also included the link to the Smalltooth Sawfish Draft Recovery Plan. The Recovery Plan and Federal Register Notice can both be accessed from the following website:

<http://www.nmfs.noaa.gov/pr/recovery/plans.htm>

As per our discussion today, I understand that the proposed modifications to the regulation schedule are operations and maintenance

(O&M) and are not CERP-funded. There are no structural modifications proposed for this phase of the project. However, CERP funding and structural modifications are proposed for the next phase of the project, at which time the COE may be able to complete hydrological modeling and surveys needed to determine the effects of the project on Johnson's seagrass. NMFS provided the COE with Bob Virnstein's contact information. Dr. Virnstein has mapped known locations of Johnson's seagrass in the Indian River Lagoon. A three-dimensional hydrological model should be able to determine the direction and flow of the freshwater releases into estuarine and marine waters. This will assist NMFS in determining whether Johnson's seagrass will be affected by the freshwater releases, once the mapping information is obtained.

Please consider the request for additional information and recommendations provided below to be a supplement to the attached RAI

letter:

The National Marine Fisheries Service (NMFS) recommends that the Corps of Engineers (COE) run a three-dimensional hydrological model to predict the following:

- 1) The distribution and flow of the freshwater releases as they make their way from the mouth of the St. Lucie and the Caloosahatchee Rivers into estuarine and marine waters. We are especially concerned about the direction and flow of the releases at the mouth of the St. Lucie River since this area is within the range of Johnson's seagrass. In addition, the St. Lucie Inlet is designated critical habitat for Johnson's seagrass. If the St. Lucie Inlet is part of the action area, the COE

should determine whether the proposed project would adversely modify designated critical habitat for Johnson's seagrass.

2) Please describe the baseline and after-action salinity regime in the estuarine and marine waters that will be affected by the freshwater releases. We are especially concerned about changes in salinity in areas that support Johnson's seagrass. Please include approximate water depths (at high and low tides) in areas that support Johnson's seagrass that would be affected by changes to the baseline salinity.

If you have any questions concerning this e-mail or the attachments, please contact me by e-mail or by telephone at 305-595-8352.

Thank you,
Audra Livergood

Haberer, Yvonne L SAJ wrote:

>
>
> Yvonne Haberer
> Biologist
> U.S. Army Corps of Engineers
> Planning Division
> Environmental Branch
> 701 San Marco Boulevard
> Jacksonville, Florida 32207
> 904-232-1701
> Yvonne.l.haberer@usace.army.mil
>



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JUL 09 2007

Mr. David Bernhart
Assistant Regional Administrator, Protected Resources
National Marine Fisheries Service
263 13th Avenue South
St. Petersburg, Florida 33701

Dear Mr. Bernhart:

This letter is in reference to the Lake Okeechobee Regulation Schedule Study for Lake Okeechobee, Florida.

On August 10, 2006, the U.S. Army Corps of Engineers (Corps) submitted to your office a Draft Supplemental Environmental Impact Statement (DSEIS) for changes to the Lake Okeechobee Regulation Schedule, which served as our Biological Assessment (BA) for the endangered smalltooth sawfish (*Pristis pectinata*) and the threatened Johnson's seagrass (*Halophila johnsonii*). Your office responded by letter dated September 27, 2006 requesting additional information on these species to assist in your evaluation of potential effects.

Following the public review period of the 2006 DSEIS, the Corps received numerous comments on the preferred alternative. The comments centered on the need for improving the preferred alternative as it related to estuary performance. In an effort to further minimize impacts to coastal estuaries, the Corps performed additional plan formulation and subsequent hydrologic simulation modeling to improve estuary performance. Since additional formulation and modeling was done, which resulted in additional alternatives and an improved preferred alternative, it was necessary to revise the 2006 DSEIS instead of finalizing the document. During the revision of the DSEIS, your original comments were addressed, and an expanded discussion on the smalltooth sawfish and Johnson's seagrass was completed.

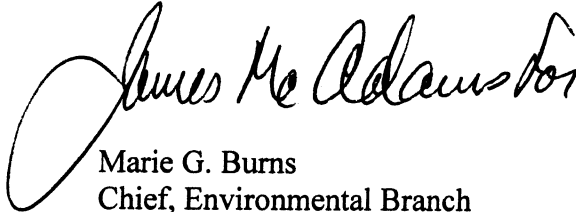
It is important to add that the proposed alternative regulation schedule represents the best operational compromise at this time to improve the environmental health of major south Florida ecosystems, while providing for public health and safety during rehabilitation efforts underway for the Herbert Hoover Dike. The regulation schedule is an interim schedule until a new schedule is developed to accommodate upcoming Comprehensive Everglades Restoration Plan (CERP) projects, which would allow additional storage options for Lake Okeechobee water, and subsequently reduce undesirable flows to the coastal estuaries.

Pursuant to the National Environmental Policy Act (NEPA), enclosed for your review and comment is a copy of the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule. The draft SEIS also constitutes our Biological Assessment as required by the Endangered Species Act (ESA) of 1973, as amended.

The Corps has determined that implementation of the preferred alternative regulation schedule documented in the Revised Draft SEIS may affect, but would not likely adversely affect, Johnson's seagrass (*Halophila johnsonii*) or the smalltooth sawfish (*Pristis pectinata*).

We request your concurrence with our determination of effects pursuant to the ESA. We also request comments pursuant to NEPA within 45 days from the date on which the notice of availability appears in the Federal Register, which is expected to be on July 6, 2007. If you have any questions or need further information, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie G. Burns". The signature is fluid and cursive, with a large loop at the beginning.

Marie G. Burns
Chief, Environmental Branch

Enclosure



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
(727) 824-5312, FAX (727) 824-5309
<http://sero.nmfs.noaa.gov>

SEP 11 2007

F/SER31:AL

Mr. David Hobbie, Chief
Environmental Branch
Planning Division
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232

Re: Draft Supplemental Environmental Impact Statement (DSEIS) for changes to the Lake
Okeechobee Regulation Schedule (LORS)

Dear Mr. Hobbie:

This responds to your July 9, 2007, letter and DSEIS regarding the subject Corps of Engineers' (COE) study. You indicated that the DSEIS is intended to serve as the COE's biological assessment (BA) for the project. The purpose of the proposed changes to the LORS is to reduce the frequency high volume freshwater releases from Lake Okeechobee to the St. Lucie and Caloosahatchee Canals that flow into the downstream St. Lucie and Caloosahatchee Rivers, with the ultimate goal of improving the environmental health of the St. Lucie and Caloosahatchee estuaries. You determined that the proposed activity is not likely to adversely affect smalltooth sawfish and Johnson's seagrass and requested the National Marine Fisheries Service's (NMFS) concurrence, pursuant to section 7 of the Endangered Species Act (ESA). NMFS' determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. You are reminded that any changes to the proposed action may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

The LORS study area is comprised of Lake Okeechobee, the St. Lucie estuary located at the Martin/St. Lucie County line, the Caloosahatchee estuary in Lee County, and to a lesser degree, the Everglades Agricultural Area (EAA) located south of Lake Okeechobee, the northern Water Conservation Areas (WCAs) located in Broward and Palm Beach Counties, and the Lake Worth Lagoon in Palm Beach County, Florida.

Historically, high water levels in Lake Okeechobee have led to high volume freshwater releases to the coastal estuaries causing stress to marine habitats. To lessen some of the environmental impacts from high volume releases of freshwater and to accommodate for Herbert Hoover Dike (HHD) structural limitations, a lower lake regulation schedule is necessary. The project has many purposes, including flood control and water supply for agriculture, municipalities,



Everglades National Park, preservation of fish and wildlife, recreation, navigation, and prevention of salt water intrusion. You stated the proposed changes to the LORS represent the best operational compromise at this time to improve the environmental health of certain major ecosystems, while providing for public health and safety as it pertains to the LORS and the HHD that is constructed along the perimeter of Lake Okeechobee for flood control purposes. The proposed action is operational and does not involve construction or removal of any physical structures. The purpose of the proposed changes to the LORS is to reduce the number of high volume freshwater releases from Lake Okeechobee to the St. Lucie and Caloosahatchee Canals that flow downstream into the St. Lucie and Caloosahatchee Rivers, with the ultimate goal of improving the environmental health of the St. Lucie and Caloosahatchee estuaries.

Smalltooth sawfish, Johnson's seagrass, and five species of sea turtles (loggerhead, Kemp's ridley, green, leatherback and hawksbill) protected by the ESA and under NMFS' purview, are known to occur in the downstream estuarine and marine waters of the Lake Okeechobee watershed. Johnson's seagrass is found on the Atlantic coast of Florida, primarily in lagoonal systems from Sebastian Inlet south to central Biscayne Bay. Smalltooth sawfish are known to occur along both the Gulf and Atlantic Coasts of Florida, but tend to have a higher density at the mouth of the Caloosahatchee River as compared to the St. Lucie River. Their core range extends along the Everglades coast from the Ten Thousand Islands to Florida Bay, with moderate occurrence in the Florida Keys and at the mouth of the Caloosahatchee River¹. NMFS believes the project would have no effect on sea turtles because the project does not have any elements with the potential to affect sea turtles. There is no designated critical habitat within the project area.

NMFS believes smalltooth sawfish and Johnson's seagrass may be affected by the proposed work. NMFS does not believe the project would have any direct effects on these species because the proposed changes to the LORS are operational and do not involve any construction or removal of physical structures. Indirect effects may include potential changes in the movement patterns of individual smalltooth sawfish either upstream or downstream as a result of changes in salinity (related to the amount of freshwater flow) within the downstream waters of the Caloosahatchee and St. Lucie estuaries. NMFS believes the preferred alternative may have an indirect benefit for seagrasses in the St. Lucie estuary, including Johnson's seagrass, because implementation of the preferred alternative would result in fewer high volume freshwater discharges from Lake Okeechobee. Information provided in the DSEIS indicates that high volume freshwater discharges (greater than 3,000 cfs) potentially cause adverse impacts to marine waters in the Indian River Lagoon, which may adversely impact seagrasses. By reducing the number of high volume freshwater releases to the St. Lucie estuary, it may indirectly benefit marine habitats such as seagrass beds. Therefore, NMFS believes implementation of the preferred alternative may indirectly benefit seagrasses in the St. Lucie estuary, including Johnson's seagrass.

NMFS believes the preferred alternative would have at most an insignificant effect on smalltooth sawfish. Based on research conducted by Mote Marine Lab in which scientists tracked the movements of six juvenile smalltooth sawfish upstream and downstream of the Caloosahatchee

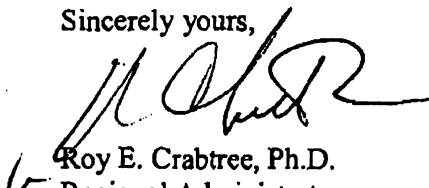
¹ Simpfordorfer, C.A. 2006. Movement and habitat use of smalltooth sawfish. Mote Marine Laboratory Technical Report 1070, Final Report.

River, the results indicate that individuals move further up river in the spring when freshwater flows are low and further down river in summer when freshwater flows are high. The results suggest there may be a relationship between use of the river and salinity.² NMFS believes juvenile smalltooth sawfish may be moving away from areas where the salinity is too low. The preferred alternative proposes to reduce the number of high volume freshwater pulse releases to the Caloosahatchee and St. Lucie estuaries, with more gradual freshwater releases over a longer period. NMFS believes juvenile smalltooth sawfish that migrate up river may be able to utilize upstream habitats for greater periods of time since there will be fewer high volume releases of freshwater under the preferred alternative schedule. We believe that the overall effects of the proposed action on smalltooth sawfish will either be neutral or insignificant.

Based on our analysis, we concur with the COE's determination that the proposed action is not likely to adversely affect any listed species under our purview. This concludes your ESA consultation responsibilities with NMFS for the proposed project. Be advised that the consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

We have enclosed additional information on other statutory requirements that may apply to this action, as well as information on NMFS' Public Consultation Tracking System (PCTS) that allows you to track the status of ESA consultations. We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation or PCTS, please contact Audra Livergood, fishery biologist, at (305) 595-8352, or by e-mail at Audra.Livergood@noaa.gov.

Sincerely yours,



Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosure

cc: Jocelyn Karazsia, HCD West Palm Beach

File: 1514-22.F.1.FL

Ref: I/SER/2007/04580

² Ibid.

Additional Considerations for ESA Section 7 Consultations (Revised 12-6-2005)

Marine Mammal Protection Act (MMPA) Recommendations: The Endangered Species Act (ESA) section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA section 101 (a)(5) is necessary. Contact Ken Hollingshead of our NMFS Headquarters' Protected Resources staff at (301) 713-2323 for more information on MMPA permitting procedures.

Essential Fish Habitat (EFH) Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division (PRD) pursuant to section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act's (MSA) requirements for essential fish habitat (EFH) consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Public Consultation Tracking System (PCTS) Guidance: PCTS is an online query system allowing federal agencies and U.S. Army Corps of Engineers' (COE) permit applicants to track the status of NMFS consultations under ESA section 7 and under MSA sections 305(b)2 and 305(b)(4): Essential Fish Habitat. Access PCTS via: www.nmfs.noaa.gov/pcts. Federal agencies are required to enter an agency-specific username and password to query the Federal Agency Site. The Corps Permit Site allows COE permit applicants the ability to check on the current status of Clean Water Act section 404 permit actions for which NMFS has conducted an ESA section 7 consultation with the COE since the beginning of the 2001 fiscal year (no password needed).

For COE-permitted projects, click on "Enter Corps Permit Site." From the "Choose Agency Subdivision (Required)" list, pick the appropriate COE district. At "Enter Agency Permit Number" type in the COE district identifier, hyphen, year, hyphen, number. The COE is in the processing of converting its permit application database to PCTS-compatible "ORM." An example permit number is: SAJ-2005-000001234-IPS-1. For the Jacksonville District, which has already converted to ORM, permit application numbers should be entered as SAJ (hyphen), followed by 4-digit year (hyphen), followed by permit application numeric identifier with no preceding zeros. E.g., SAJ-2005-123, SAJ-2005-1234, SAJ-2005-12345.

For inquiries regarding applications processed by Corps districts that have not yet made the conversion to ORM (e.g., Mobile District), enter the 9-digit numeric identifier, or convert the existing COE-assigned application number to 9 numeric digits by deleting all letters, hyphens, and commas; converting the year to 4-digit format (e.g., -04 to 2004); and adding additional zeros in front of the numeric identifier to make a total of 9 numeric digits. E.g., AL05-982-F converts to 200500982; MS05-04401-A converts to 200504401. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov. Requests for username and password should be directed to April Wolstencroft (PCTSUsersupport@noaa.gov).

U.S. Fish and Wildlife Service



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



April 29, 2005

Colonel Robert M. Carpenter
District Engineer
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

RECEIVED

MAY 04 2005

**JACKSONVILLE DISTRICT
USACE**

Dear Colonel Carpenter:

On April 22, 2005, Fish and Wildlife Service (Service) personnel participated in a conference call with several U.S. Army Corps of Engineer (Corps) staff, Dr. Wiley Kitchens of the Florida Cooperative Fish and Wildlife Research Unit at the University of Florida, and South Florida Water Management District (District) personnel to discuss potential impacts to endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*) nesting that may have resulted from water regulations within Lake Tohopekaliga (Toho). Dr. Kitchens brought the issue to the Service's attention when his students discovered that many snail kite nests in Lake Toho had been depredated after water levels had rapidly dropped. On the conference call, Corps and District staff agreed to use operational flexibility within the approved regulation schedule to minimize additional impacts to kite nesting by ensuring that the rate of managed outflows does not unnecessarily impact the suitability of kite nesting areas.

As the Service increases our focus on snail kites and gathers additional information in conjunction with the Comprehensive Everglades Restoration Plan and kite recovery efforts, we expect to identify similar issues that provide opportunities to improve and refine management. The Service and Dr. Kitchens plan to conduct an evaluation of the remaining kite nests within Lake Toho in coming weeks and make the results available to Corps and District staff as soon as they are available. In addition to the kite nests in Lake Toho, preliminary data suggest that kite nests in other areas, including Lakes Okeechobee and Kissimmee, may be vulnerable to increased depredation rates resulting from the receding waters. We plan to include these areas in the analysis to allow overall evaluation of potential risk and its consequences for the population.

We clearly recognize that some increased nest vulnerability may occur during normal water management, and there is not sufficient evidence to suggest that the nest failures were attributable to significant departures from water regulation schedules; several factors may have contributed to the observed losses. Kite nesting has occurred in some areas that have not traditionally supported extensive kite nesting and these areas may not be as favorable for nesting. Higher-than-normal water levels early in the kite nesting season (January through June) may have also resulted in kites selecting nest sites that are farther up the slope of the shoreline than normal and that are consequently more susceptible to drying. Additionally, kite nesting was

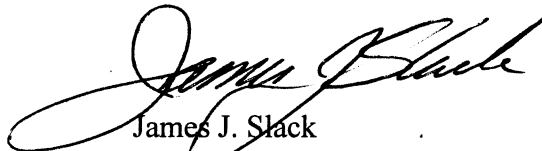
**TAKE PRIDE
IN AMERICA** 

initiated later than normal this year, possibly resulting in more nests than normal to be potentially affected by scheduled spring drawdowns.

Despite the various factors that may contribute to poor nest success in 2005, the Service encourages the Corps and the District to make every effort to utilize operational flexibility within approved regulation schedules to minimize further risks to snail kite nesting. We hope that the planned analysis will help identify opportunities to improve nesting conditions and avoid further impacts. The snail kite population in Florida has declined in recent years from approximately 3,500 individuals in 1999 to an estimated 1,500 individuals in 2004 (Martin et al. 2005), and ensuring successful reproduction is critical to achieving improvements in the kite population. While nesting within the Lakes has traditionally not been a significant source of production in Florida's overall snail kite population, low nesting effort within the Water Conservation Areas during 2005 places increased emphasis on supporting kite nesting in the Lakes.

We look forward to further coordination on this issue. In addition to addressing the immediate concern of minimizing impacts to kite nesting, we hope this effort and your involvement will help in further improving our management for the Everglade snail kite and other key resources in upcoming planning and restoration efforts. If you have any questions or need additional information about Everglade snail kite management, please contact Cindy Schulz at 772-562-3909, extension 305, or Tylan Dean at extension 284.

Sincerely yours,



James J. Slack
Field Supervisor
South Florida Ecological Services Office

cc:

District, West Palm Beach, Florida (Ron Mierau)
FWC, West Palm Beach, Florida (Chuck Collins)
DEP, Tallahassee, Florida (Ernie Barnett)
Corps, Jacksonville, Florida (Susan Sylvester)

LITERATURE CITED

Martin, J., W. Kitchens, C. Cattau, C. Rich, and D. Piotrowicz. 2005. Draft snail kite demography report 2004. Unpublished report to the U.S. Fish and Wildlife Service, South Florida Ecological Services Office; Vero Beach, Florida. Intra-agency agreement 1448-40181-01-N-006



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

29 AUG 2005

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

Mr. James J. Slack
Field Supervisor
U S Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559

Dear Mr. Slack:

The U.S. Army Corps of Engineers, (Corps) Jacksonville District, is preparing a draft Supplemental Environmental Impact Statement (DEIS) for the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida (C&SF) Project, Lake Okeechobee, Florida. The DEIS will supplement the Final Environmental Impact Statement for the LORSS prepared in 2000.

Lake Okeechobee is located in south-central Florida, about 60 miles south of Orlando, and 40 miles northwest of Miami, within Okeechobee, Glades, Palm Beach, Martin, and Hendry Counties.

Pursuant to the Endangered Species Act, as amended, the Corps is requesting a list of any species or their critical habitat, either listed or proposed for listing, that may be present in the referenced study area (see enclosed map of LORSS area).

The Corps intends to reinitiate consultation as appropriate when we have identified alternatives and potential impacts. For further information please contact Mr. Nelson Colón at 904-232-2442 or by electronic mail at Nelson.R.Colon@saj02.usace.army.mil.

Sincerely,


Stuart J. Appelbaum
Chief, Planning Division

Enclosure



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



September 19, 2005

Stuart J. Appelbaum
Chief, Planning Division
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Appelbaum:

On August 3, 2005, the U.S. Army Corps of Engineers (Corps) published in the Federal Register a Notice of Intent to prepare a Draft Supplemental Environmental Impact Statement (EIS) for the Lake Okeechobee Regulation Schedule Study (Department of Interior ER Number 05/693). A July 21, 2005, letter from the Corps was sent to interested parties briefly describing the proposed study and requesting views, comments, and information regarding this project. The Fish and Wildlife Service (Service) is pleased to submit for your consideration the following discussion of our views and issues regarding the Lake Okeechobee Regulation Schedule.

The Service is aware of the multiple, and often conflicting, environmental objectives for managing water levels in Lake Okeechobee. We will continue to take a broad system-wide perspective in reviewing the ecological effects on the lake's littoral zone, the St. Lucie and Caloosahatchee estuaries, and the remnant Everglades to the south in the Water Conservation Areas.

Despite our continued commitment to taking an ecosystem-level approach in our review of Lake Okeechobee regulation, the Service has an overriding concern regarding the effects of water levels on the survival and recovery of the endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*) in the Kissimmee/Okeechobee/Everglades watershed in south Florida. Please refer to our letter dated January 20, 2005, in which we expressed the need for the Corps to initiate formal consultation on this species. On August 22, 2005, the National Wildlife Federation and the Florida Wildlife Federation filed a complaint against the Corps on this issue. This recent court filing underscores the need for a reinitiation of formal consultation. As we stated in our January 20, 2005, letter, the only previous formal consultation in 1978 was written prior to the 1982 amendment to the Endangered Species Act allowing incidental take. The Service needs to assist the Corps to identify, descriptively and numerically, the level of incidental take of snail kites under the existing and any proposed future regulation schedule for Lake Okeechobee.

TAKE PRIDE
IN AMERICA 

Snail kite survey data over the past several years have shown an almost complete abandonment of Lake Okeechobee as a breeding area, when it historically was one of the most important breeding grounds for the snail kite in all of Florida. This substantial reduction in foraging and breeding may be directly related to unsuitable water levels. Water levels affect the vegetative composition and structure of the lake's littoral zone (breeding habitat for the apple snail [*Pomacea paludosa*], the snail kite's primary food source), and the availability of suitable snail kite nesting habitat. Since the Corps first consulted with the Service on the regulation schedule back in 1978, the Service has consistently favored a regulation schedule with lower average water levels than currently in use.

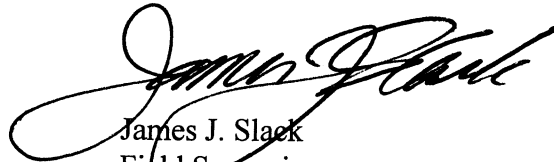
In addition to our concerns for the snail kite, we are also troubled by the increasingly negative effects of water releases from the lake (including, but not limited to, events this year) on the St. Lucie and Caloosahatchee estuaries. Undesirable water releases (in both timing and quantity) have damaged these sensitive ecological systems. As indicated in the Corps' July 21, 2005, letter, the unusual (though predicted) weather conditions in the past several years have demonstrated a significant weakness in the current regulation schedule when it comes to protecting the natural resources of the estuaries and the lake itself.

One specific aspect of the regulation schedule which needs close scrutiny is the release decision tree. As the Service has recommended in the past, the decision tree must include ecological considerations as part of its logic flow. Although, much text has been written in previous studies about consultation with estuarine experts prior to making releases to the estuaries, this consultation has not been added as a requirement within the decision tree. While we recognize the advantages of maintaining a certain level of flexibility in the decision tree (adaptive management to particular circumstances), adaptive changes in water release decisions make it difficult to compare modeled alternatives to what is done in the real world. In the past, the Service generally supported what the Corps had termed "temporary deviations" when these appeared to be beneficial based on the particular circumstances facing the lake and the estuaries at the time. However, the "temporary" deviations to the Water Supply and Environmental regulation schedule have extended to the point where the model runs the agencies formally evaluated in 1999 prior to the EIS bear little resemblance to what has happened. We want to be reasonably certain that the modeling of alternatives is close to what will actually take place under a revised schedule.

The Service is very interested in contributing staff and expertise for the development of new and more effective performance measures that will be used for the evaluation of the lake's water level modeling, and for the monitoring and assessment of post-project management decisions. Regarding the modeling of project alternatives, it is necessary for all alternatives to be modeled both with and without the proposed forward pumps for agricultural interests to the south of the lake. Only by seeing the effects that these proposed pumps have on overall water recession and recovery rates can the Service properly evaluate their inclusion in any restoration plan or regulation schedule for the lake and surrounding watershed.

Thank you for this opportunity to provide early comments on this very important and timely project. The Service greatly appreciates your efforts in helping to protect the fish and wildlife resources of south Florida. If you have questions regarding this letter, please call Doug Chaltry at 772-562-3909, extension 320, or Robert Pace at extension 239.

Sincerely yours,

A handwritten signature in black ink, appearing to read "James J. Slack". The signature is fluid and cursive, with a large loop at the end.

James J. Slack
Field Supervisor
South Florida Ecological Services Office

cc:

District, West Palm Beach, Florida (Dr. Susan Gray)
FWC, Vero Beach, Florida (Dr. Joseph Walsh)
Audubon of Florida, Lorida, Florida (Dr. Paul Grey)
Service, Jacksonville, Florida (Miles Meyer)
Service, Atlanta, Georgia (Jeff Weller)
Florida Wildlife Federation, Tallahassee, Florida
National Wildlife Federation, Reston, Virginia



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



September 30, 2005

Stuart J. Appelbaum
Chief, Planning Division
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Service Log Number: 4-1-05-CERP-10268
Project: Lake Okeechobee
Regulation Schedule

Dear Mr. Appelbaum:

Thank you for your letter dated August 29, 2005, in which you requested that the Fish and Wildlife Service (Service) provide a list of threatened and endangered species that may be present in the study area of the project referenced above.

PROJECT DESCRIPTION

Lake Okeechobee is located in south-central Florida, about 60 miles south of Orlando, and 40 miles northwest of Miami, within Okeechobee, Glades, Palm Beach, Martin and Hendry counties. The Lake Okeechobee Regulation Schedule Study (LORSS) was begun in 1995 with the intent to analyze and select a suitable schedule for regulating water levels within the lake. This study also takes into account the timing and quantity of water releases to downstream systems such as the St. Lucie and Caloosahatchee estuaries, and the remnant Everglades to the south in the Water Conservation Areas. An Environmental Impact Statement (EIS) was published in 2000, and the WSE (Water Supply and Environment) regulation schedule was selected for implementation. Since implementation of the WSE, there have been many temporary deviations to the schedule and minor modifications made to it to fine-tune its responsiveness to severe or unanticipated climatologic changes. The U.S. Army Corps of Engineers is currently preparing a Draft Supplemental EIS to again evaluate possible alternatives to the existing regulation schedule.

THREATENED AND ENDANGERED SPECIES

The Service has reviewed our Geographic Information System (GIS) database for recorded locations of federally listed threatened and endangered species within or near the project area. The GIS database is a compilation of data received from several sources. The Service has not conducted a site inspection to verify species occurrence or validate the GIS results. However,



we assume that listed species occur in suitable ecological communities and recommend site surveys to determine the presence or absence of listed species. Ecological communities suitable for listed species can be found in the species accounts in the *South Florida Multi-Species Recovery Plan*. This document is available on the internet at <http://www.fws.gov/verobeach/Programs/Recovery/esvbrecovery.html>.

We have also provided for your consideration two additional internet links:

(1) <http://www.fws.gov/verobeach/Programs/Permits/Section7.html>. This page provides links to tables of species by county that are protected as either threatened or endangered under the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*) for counties in south Florida. Because this matrix does not include State-listed species, we recommend that you contact the Florida Fish and Wildlife Conservation Commission (FWC) to identify those species potentially present in the vicinity of the project; and

(2) <http://migratorybirds.fws.gov/>. This list represents species that the Service is required to protect and conserve under other authorities, such as the Fish and Wildlife Coordination Act of 1958, as amended (FWC) (48 Stat. 401; 16 U.S.C. 661 *et seq.*) and the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 701 *et seq.*). A variety of habitats within the project area may provide resting, feeding, and nesting sites for a variety of migratory bird species. As a public trust resource, migratory birds must be taken into consideration during project planning and design.

Everglade snail kite

Suitable habitat for the Everglade snail kite (*Rostrhamus sociabilis plumbeus*) consists of freshwater marshes and shallow vegetated edges of lakes where apple snails (*Pomacea* spp.) are present. Critical habitat for the snail kite was designated in 1977, and includes a large portion of the littoral zone in the western and southwestern shores of Lake Okeechobee. Snail kite survey data over the past several years have shown an almost complete abandonment of Lake Okeechobee as a breeding area, when it historically was one of the most important breeding grounds for the snail kite in all of Florida. Water levels within the lake affect the vegetative composition and structure of the lake's littoral zone (habitat for the apple snail), and the availability of suitable snail kite nesting habitat.

Wood stork

Our records indicate the project occurs within the core foraging area (CFA) (within 18.6 miles) of several historic and current wood stork (*Mycteria americana*) nesting colonies. The wood stork typically utilizes freshwater marshes, ponds, ditches, tidal creeks and pools, impoundments, pine/cypress depressions, and swamp sloughs for foraging. They forage most effectively in shallow-water areas with highly concentrated prey, such as wetland depressions subject to seasonal drying.

Bald eagle

Our database indicates that there are numerous active and inactive bald eagle (*Haliaeetus leucocephalus*) nests located within and surrounding the project site. Bald eagles are vulnerable to disturbance during courtship and in the early stages of nesting, which may lead to nest abandonment or chilled or overheated eggs and young. Human activity near the nest later in the nesting cycle may cause premature fledging, thereby reducing the likelihood of fledgling survival. The Service and the FWC have agreed upon standard protection measures for bald eagles. The Service's *Habitat Management Guidelines for the Bald Eagle in the Southeast Region* (Service 1987) provides recommendations to avoid adversely affecting the bald eagle during the nesting season. These guidelines can be viewed or downloaded at: <http://northflorida.fws.gov/BaldEagles/Documents/eagle-habitat.pdf>.

West Indian manatee

Our records indicate that the endangered West Indian manatee (*Trichechus manatus*) occurs in the lake, its peripheral canals, and within the Caloosahatchee and St. Lucie rivers and their associated estuaries. Manatees feed on a variety of submergent, emergent, and floating vegetation; preferred areas for foraging include shallow seagrass beds (1 to 3 m [3 to 9 ft] in depth). Shallow water areas are also used for resting, mating, and calving. Coastal shorelines and deeper inland channels are often used as travel and migratory routes. Manatees may be impacted by changes to their food supply, and by changes in the operation of water control structures. One of the principal threats to manatees is the risk of mortality or injury due to impact with watercraft. Boat traffic is present throughout Lake Okeechobee, with larger boats typically using the Okeechobee Waterway.

Cape Sable seaside sparrow

Cape Sable seaside sparrows have a very restricted range, occurring only in the southern Everglades of Miami-Dade and Monroe counties in South Florida. They are non-migratory birds and are isolated from other breeding populations of seaside sparrows. Presently, the known distribution of the sparrow is restricted to two areas of marl prairies east and west of Shark River Slough, and flanking Taylor Slough, in Everglades National Park. This area is indirectly affected by water releases from Lake Okeechobee south into the Water Conservation Areas and yet farther south into Everglades National Park.

Eastern indigo snake

The eastern indigo snake (*Drymarchon corais couperi*) was federally listed as threatened in 1978 due to dramatic population declines. Since then, habitat lost to residential and commercial development has become a significant threat. In south Florida, eastern indigo snakes are frequently associated with most types of native habitat, including uplands, wetlands, agricultural and disturbed lands (Service 1999). Suitable indigo snake habitat exists within the project site on the surrounding levees and in the seasonal wetlands within the lake's littoral zone. We

recommend that the applicant adhere to the *Standard Protection Measures for the Eastern Indigo Snake* (Service 2002) in any proposed project design.

Okeechobee gourd

The Okeechobee gourd (*Cucurbita okeechobeensis* ssp. *okeechobeensis*) is a vine that was historically common south of Lake Okeechobee. It is now restricted in the wild to two small disjunct populations, one of which is on natural and man-made spoil islands within, and along the shoreline of Lake Okeechobee in South Florida. Currently, the survival of the Okeechobee gourd in south Florida is threatened by the water-regulation practices in Lake Okeechobee and the continued expansion of exotic vegetation in the lake.

Sea turtles


The Service believes that free-swimming sea turtles may be affected by the alteration of natural salinity cycles in the Caloosahatchee and St. Lucie estuaries. The quantity and quality of fresh water entering the estuaries are influenced by the Lake Okeechobee regulation schedule. Free-swimming sea turtles are under the jurisdiction of the National Marine Fisheries Service (NOAA Fisheries). To obtain concurrence with your determination regarding effects to free-swimming sea turtles, the Service recommends that you coordinate with the NOAA Fisheries Miami Office at 305-595-8352.

Johnson's seagrass

The Service believes that Johnson's seagrass (*Halophila johnsonii*) may be affected by the alteration of natural salinity cycles in the Caloosahatchee and St. Lucie estuaries. The quantity and quality of fresh water entering the estuaries are influenced by the Lake Okeechobee regulation schedule. Johnson's seagrass is under the jurisdiction of the National Marine Fisheries Service (NOAA Fisheries). To obtain concurrence with your determination regarding effects to this species, the Service recommends that you coordinate with the NOAA Fisheries Miami Office at 305-595-8352.

Thank you for the opportunity to comment and for your cooperation in protecting federally listed species. If you have any questions, please contact Doug Chaltry at 772-562-3909, extension 320, or Robert Pace at extension 239.

Sincerely yours,



James J. Slack *for*
Field Supervisor
South Florida Ecological Services Office

cc:

District, West Palm Beach, Florida (Dr. Susan Gray)
FWC, Vero Beach, Florida (Dr. Joseph Walsh)
Audubon of Florida, Lorida, Florida (Dr. Paul Grey)
Service, Jacksonville, Florida (Miles Meyer)

LITERATURE CITED

- U.S. Fish and Wildlife Service (Service). 1987. *Habitat Management Guidelines for the Bald Eagle in the Southeast Region*. Fish and Wildlife Service, Region 4, Atlanta, Georgia.
- U.S. Fish and Wildlife Service (Service). 1999. *South Florida Multi-Species Recovery Plan*. Atlanta, Georgia.
- U.S. Fish and Wildlife Service (Service). 2002. *Draft Standard Protection Measures for the Eastern Indigo Snake*. Fish and Wildlife Service, South Florida Ecological Services Office; Vero Beach, Florida.



**DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019**

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

JAN 04 2006

Mr. Jay Slack
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559

Dear Mr. Slack:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is proposing to issue a temporary deviation to the Water Supply and Environment (WSE) regulation schedule for Lake Okeechobee. The temporary deviation would allow up to Level 1 pulse releases from the lake to the St. Lucie Canal (C-44) and the Caloosahatchee River (C-43) when such releases are not specifically directed by the WSE regulation schedule. This letter is submitted in accordance with Section 7 of the Endangered Species Act of 1973, as amended.

Lake Okeechobee has sustained high water levels in 2003, 2004 and 2005. High water levels have contributed to poor ecological conditions that have led to the decline in emergent and submerged vegetation, which is essential for the fish and wildlife utilizing this habitat. The proposed deviation is an attempt to provide immediate relief of the ecologically damaging water levels in Lake Okeechobee while providing benefits to a variety of fish, wildlife and aquatic vegetation. Additionally, implementing low-level releases now may reduce the risk of high freshwater discharges to the St. Lucie and Caloosahatchee Estuaries in the rainy season of 2006.

Temporary deviations for up to Level 1 pulse releases were also approved and implemented in 2004 and 2005. These deviations were successful with removing water from Lake Okeechobee in a manner that did not cause adverse effects in the estuaries or to water supply. The operational flexibility of this action in the past has provided substantial benefits for a variety of fish and wildlife resources.

Operational guidelines and measures to be taken to monitor system responses will be the same as under the previous temporary deviations in 2004 and 2005. Decisions to exercise the flexibility under this temporary deviation will be made on a weekly basis, and the following specific conditions apply:

1. The duration of the requested extension will occur through December 31, 2006.
2. The operation will only occur if the lake stage is in Zone D or higher of the WSE schedule.

3. Releases not specifically called for by the WSE schedule will not exceed the Level 1 pulse volume or maximum daily discharge rate, in order to minimize estuarine impacts.
4. There will be flexibility to conduct releases at volumes lower than Level 1 pulse.
5. The operation will cease when spawning occurs or is identified for fish and oysters in the Caloosahatchee and St. Lucie Estuaries, in order to avoid impacts to those communities.
6. The operation will also include releases of water to the WCA's, even when the WSE schedule does not specifically call for those releases, as long as this can be done with minimal or no impacts on the Everglades ecosystem.
7. The performance of the deviation will be evaluated weekly using the performance measures defined in the Lake Okeechobee Adaptive Protocols document and using the latest position analysis for evaluation.

Prior consultations with your office in 2004 and 2005 under Section 7 of the Endangered Species Act of 1973, as amended, determined that the temporary deviation (up to Level 1 pulse releases) was not likely to adversely affect threatened or endangered species under your jurisdiction, or result in destruction or adverse modification of designated critical habitat. By implementing a temporary deviation for up to Level 1 pulse releases during 2006, the Corps has determined that a "not likely to adversely affect" would still apply. Your written concurrence with this determination is requested.

If you have any questions or need additional information, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie G. Burns". The signature is fluid and cursive, with the first name "Marie" being more prominent.

Marie G. Burns
Chief, Environmental Branch



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

MAR 08 2006

Mr. Jay Slack
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559

Dear Mr. Slack:

This letter is in reference to the Lake Okeechobee Regulation Schedule (LORS) study that is currently underway. As you are aware, the study is being conducted to evaluate possible alternatives to the existing Water Supply and Environment (WSE) regulation schedule for Lake Okeechobee, and the U.S. Fish and Wildlife Service (Service) has a representative working with the U.S. Army Corps of Engineers (Corps) on the Project Delivery Team. Because several listed species could be affected by a new regulation schedule, the Corps would like to engage in informal consultation pursuant to the Endangered Species Act (ESA) during the new schedule study to involve the Service in the development and evaluation of alternatives, instead of waiting to consult on a preferred alternative.

The current WSE schedule was adopted in 2000. It was developed to optimize environmental benefits with little or no impact to the competing purposes of flood control, water supply, navigation, salinity control and recreational purposes. The Corps consulted informally with the Service on WSE for several years, and in 1999, based upon the best scientific information available, the Service concurred with the Corps' determination that the regulation schedule was not likely to adversely affect federally listed threatened or endangered species or result in adverse modification of designated critical habitat. The Service recognized that WSE was likely to slightly benefit the lake's littoral zone, which was likely to have a slight positive effect on the snail kite, the wood stork, the bald eagle and the Okeechobee gourd. Prior to consultation on WSE, the Corps formally consulted on its previous schedule in 1978, and subsequently coordinated with the Service on interim schedule Run 25 which preceded WSE.

The Corps has implemented several temporary deviations to the WSE regulation schedule since its adoption. The purposes of the deviations include preventing additional adverse impacts to Lake Okeechobee, minimizing the risk of high lake levels, and reducing the potential for steady releases to the Caloosahatchee and St. Lucie Estuaries, while balancing other management objectives such as flood control and water supply. The Corps implemented a temporary planned deviation allowing for up to Level 1 pulse releases when not specifically called for by WSE from December 12, 2003 through the end of May 2004. The deviation was closely coordinated with the Service to insure it would not adversely impact any threatened or endangered species or critical habitat. This deviation was subsequently extended through May 2005. For the deviation and the extension, the Service concurred with the Corps' determinations that the actions were not

likely to adversely affect threatened or endangered species or result in destruction or adverse modification of designated critical habitat. In January 2005, the Corps implemented another temporary planned deviation known as the Class Limit Adjustment (CLA) which decreased the time that the decision tree in the regulation schedule called for no discharges from Lake Okeechobee and allowed for more frequent smaller releases. The Service recognized that changes would be beneficial to the overall system and recommended implementation of the CLA. The Service also recognized that consultation would occur as the Corps planned a new regulation schedule. In February 2006, the Corps obtained approval for a temporary planned deviation similar to the one approved in 2003. This, too, was coordinated with the Service, and again, the Service concurred with the Corps' determinations that the deviation was not likely to adversely affect threatened or endangered species or result in destruction or adverse modification of designated critical habitat. And again, the Service recognized the Corps would be seeking consultation on a new regulation schedule.

The main thrust of WSE was optimization of environmental benefits. Since 2000, temporary planned deviations have been adopted to allow for greater discharges from the Lake in an effort to, among other things, minimize adverse effects of recent high lake levels. The Corps is not aware of new information that reveals effects of WSE that may affect listed species or critical habitat in a manner or to an extent not previously considered. Lake Okeechobee sustained high water levels in 2003, 2004, and 2005 which have contributed to a decline in emergent and submerged vegetation, but these high lake levels are attributable to above normal rainfall and unusually active hurricane seasons and are not the result of the implementation of WSE. In light of the coordination which has occurred regularly between the Corps and the Service on WSE and the minor improvements that followed, the Corps concludes that its current operation under WSE, with approved deviations, is in compliance with the ESA, and therefore, no consultation is warranted at this time for current operations. The Corps does not anticipate any change in operations pending the adoption of a new schedule. The Corps is aware that declines in snail kite populations have been observed statewide, and we will continue to work with the Service to better understand the habitat needs of the snail kite and other listed species that could be affected by Lake Okeechobee operations.

While the Corps has implemented the deviations with the intent to lower above-average lake levels and improve the ecological conditions within Lake Okeechobee's littoral zone, the deviations have not produced significant environmental benefits. Through the LORS study, the Corps will plan measures to further improve the environmental performance of the regulation schedule. The study will also consider South Florida Water Management District's plans to install temporary pumps to provide for agricultural water supply from Lake Okeechobee when lake levels are low.

As part of the Corps' scoping process for the LORS study, a July 21, 2005, letter was sent to the Service and other interested parties describing the study and requesting views, comments, and information regarding the LORS. Your office provided early comments by letter dated

September 19, 2005 and offered to contribute staff and expertise to the study effort. Additionally, by letter dated August 29, 2005, the Corps requested that the Service provide a list of threatened and endangered species that may be present in the study area. Your office replied with a species list by letter dated September 30, 2005.

The Corps recognizes the value of input from the Service to the study team in formulating alternatives to be modeled and assessing their performance. While the Corps considers this to be ongoing informal consultation, we would like to officially request informal consultation concerning a new regulation schedule, pursuant to 50 CFR Section 402.12, on the Everglade snail kite and other listed endangered and threatened species at this early stage to identify measures to avoid adverse effects

As you are aware, the Corps anticipates preparation of a Biological Assessment upon identification of a recommended plan. Based on the information in the Biological Assessment, a determination will be made as to whether the recommended plan may affect listed species, and formal consultation will be initiated pursuant to 50 CFR Section 401.14 as appropriate. The Corps is working expeditiously on the LORS study. We anticipate selecting a recommended plan in May 2006, with completion of a draft Supplemental Environmental Impact Statement in July 2006. We are working with an expedited schedule, as we know the importance and urgency in modifying the regulation schedule.

The Corps appreciates your contribution of expertise to the LORS Project Delivery Team. We look forward to working with you on this very important and timely project. Should you have any questions, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie G. Burns". The signature is fluid and cursive, with the first name "Marie" being the most prominent part.

Marie G. Burns
Chief, Environmental Branch



United States Department of the Interior

FISH AND WILDLIFE SERVICE

1875 Century Boulevard
Atlanta, Georgia 30345

In Reply Refer To:
FWS/R4/ES

MAY 16 2006

Colonel Robert M. Carpenter
District Engineer
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

RECEIVED

MAY 22 2006

JACKSONVILLE DISTRICT
USACE

Dear Colonel Carpenter:

The Fish and Wildlife Service has been an active participant in the effort to formulate a revision to the current Water Supply and Environment Regulation Schedule for Lake Okeechobee. The Lake Okeechobee Regulation Schedule Study (LORSS) is at the point of selection of an alternative, and that new schedule is expected to be in effect in the years 2007 through 2010.

The multi-agency LORSS team has reviewed the performance of simulations of several alternatives, using output of the South Florida Water Management Model. The Service continues to take a broad perspective in balancing competing interests in regulation of Lake Okeechobee. Nevertheless, in view of the significant ecological damage to the Caloosahatchee River estuary, San Carlos Bay, and J.N. "Ding" Darling National Wildlife Refuge; we are compelled to ensure that the selected plan is not predicted to cause any additional damage to the Caloosahatchee estuary than the "future-without-project" condition.

The Service recommends that the Corps of Engineers (Corps) adopt Alternative 1aS2 as the selected alternative in the Supplemental Environmental Impact Statement for this proposed action. This is based on our analysis of model predictions that it is the only alternative under consideration that will not harm any of the freshwater and estuarine ecosystems of south Florida that are linked to Lake Okeechobee. Additionally, while Alternative 1aS2 will provide some reduction in the high water stages that are damaging the littoral zone of Lake Okeechobee, it does so without additional high freshwater flows that are damaging the Caloosahatchee and St. Lucie estuaries.

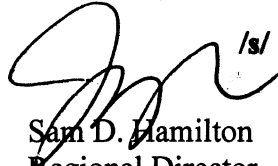
The Service will issue a Fish and Wildlife Coordination Act report soon after the Corps selects a preferred alternative and are awaiting your biological assessment to complete our Endangered Species Act requirements. We have stated in previous correspondence that we believe formal consultation will be necessary, with emphasis on addressing incidental take of the endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*). We look forward to continuing to assist

Colonel Carpenter

2

the Corps in reviewing the potential environmental impacts of the LORSS. If you have any questions or need additional information, please contact Robert Pace at 772/562-3909 (ext. 239).

Sincerely yours,



/s/ Jackie Parrish

Acting

Sam D. Hamilton
Regional Director



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

JUN 30 2006

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

Mr. Paul Souza
Acting Field Supervisor
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559

Dear Mr. Souza:

This letter is in reference to the Lake Okeechobee Regulation Schedule (LORS), Lake Okeechobee, Florida. The U.S. Army Corps of Engineers (Corps) is proposing to implement a new water regulation schedule for Lake Okeechobee. The proposed water regulation schedule will replace the current schedule referred to as the Water Supply/Environment (WSE) regulation schedule.

Due to the importance and urgency in beginning formal consultation on the LORS, the Corps has based our determination of effects on listed species from the hydrologic performance of the proposed regulation schedule as simulated by the South Florida Water Management Model. The Corps is currently in the process of developing the Water Control/Operations Plan for the proposed regulation schedule. It is the Corps' opinion that the hydrologic performance provides an adequate indication for ecosystem benefits and impacts. Accordingly, hydrologic performance was the basis for our effect determinations. Hydrologic performance as reflected in the modeling is expected to be moderated by actual operations. The Corps will provide you with additional operational data as it becomes available. Your staff has been actively involved as Project Delivery Team members working on the LORS study. As such, results of the modeling have been shared with them.

In accordance with the provisions of Section 7 of the Endangered Species Act, as amended, the Corps is providing a Biological Assessment (BA) discussing the potential effects to endangered and threatened species. Based on the information presented in the BA, the Corps has made a "no effect" determination for the bald eagle (*Haliaeetus leucocephalus*), Eastern indigo snake (*Drymarchon corais couperi*), West Indian manatee (*Trichechus manatus*) and the Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*).

As discussed in the BA, the Corps has determined that the proposed action may affect the Everglade snail kite (*Rostrhamus sociabilis plumbeus*), wood stork (*Mycteria Americana*) and Okeechobee gourd (*Cucurbita okeechobeensis*), and we are requesting a Biological Opinion be issued for these species.

-2-

If you have any questions, or require additional information, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie G. Burns". The signature is fluid and cursive, with a large initial "M" and a stylized "B".

Marie G. Burns
Chief, Environmental Branch

Enclosure



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



July 21, 2006

RECEIVED

28 July 2006

Stuart J. Appelbaum
Planning Division
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Attention: Yvonne Haberer

Service Section 7 Code: 441420-2006-0072
Date Received: July 3, 2006
Project: Lake Okeechobee
Regulation Schedule

Dear Mr. Appelbaum:

This letter acknowledges the Fish and Wildlife Service's (Service) receipt of your June 30, 2006, letter requesting initiation of formal consultation under the provisions of section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*) The consultation concerns the possible effects of the proposed revision to the Water Supply and Environmental regulation schedule for Lake Okeechobee on the Everglade snail kite (*Rostrhamus sociabilis plumbeus*), wood stork (*Mycteria americana*), West Indian manatee (*Trichechus manatus*), bald eagle (*Haliaeetus leucocephalus*), eastern indigo snake (*Drymarchon corais couperi*), Okeechobee gourd (*Cucurbita okeechobeensis*), and Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*).

All the information required to initiate consultation was either included with your letter or is otherwise accessible for our consideration and reference. In future correspondence on this consultation, please refer to the assigned Service Section 7 Code 41420-2006-0072.

The Service has been coordinating with the U.S. Army Corps of Engineers (Corps) on this proposal since early in the project planning phase. Based on our knowledge of the project and our preliminary analysis of the modeling results available on-line, we concur with the Corps' determination that the proposed project will have "no effect" on the bald eagle, eastern indigo snake, West Indian manatee, and the Cape Sable seaside sparrow, or result in destruction or adverse modification of designated critical habitat for the manatee. We also concur that the project "may affect" the Everglade snail kite, wood stork, and Okeechobee gourd, and we will include these three species in the biological opinion produced from this consultation. Our early

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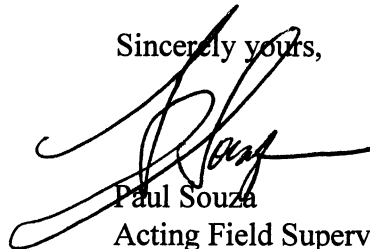
analysis indicates that your assertion of net positive effects for the wood stork and the gourd are possibly correct. However, at this time we cannot agree that the project will have a beneficial effect on the Everglade snail kite. Our complete analysis of the effects of this project on the snail kite and its critical habitat will be included in the biological opinion. This concurrence applies to those federally listed species under the jurisdiction of the Service; a separate concurrence will be required for species under the jurisdiction of the National Marine Fisheries Service.

Section 7 allows the Service up to 135 days to prepare our biological opinion (unless we mutually agree to an extension). Therefore, we expect to provide you with our biological opinion no later than November 15, 2006.

As a reminder, the Act requires that after initiation of formal consultation, the Corps may not make any irreversible or irretrievable commitment of resources that limits future options. This practice ensures that agency actions do not preclude the formulation or implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of threatened or endangered species or destroying or modifying their critical habitats.

Thank you for your cooperation in protecting the fish and wildlife resources of south Florida. If you have additional questions about this consultation or the consultation process in general, please call Doug Chaltry at 772-562-3909, extension 320, or Robert Pace at extension 239.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Paul Souza', is written over the typed name.

Paul Souza
Acting Field Supervisor
South Florida Ecological Services Office

cc:

District, West Palm Beach, Florida (Susan Gray)
FWC, Tallahassee, Florida (Mary Ann Poole)
FWC, Okeechobee, Florida (Don Fox)
DOI, Miami, Florida (Terrence Salt)
Service, Jacksonville, Florida (Miles Meyer)
Service, Atlanta, Georgia (Dave Horning)



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

15 DEC 2006

Mr. Paul Souza
Field Supervisor
U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559

Dear Mr. Souza:

This letter is in reference to the Lake Okeechobee Regulation Schedule Study (LORSS), and our formal consultation under the provisions of section 7 of the Endangered Species Act of 1973, as amended. The assigned Service Section 7 Code is 41420-2006-0072. The consultation concerns the possible effects of the proposed revision to the Water Supply/Environment (WSE) water regulation schedule for Lake Okeechobee on the Everglade snail kite (*Rostrhamus sociabilis plumbeus*), wood stork (*Mycteria americana*), West Indian manatee (*Trichechus manatus*), bald eagle (*Haliaeetus leucocephalus*), eastern indigo snake (*Drymarchon corais couperi*), Okeechobee gourd (*Cucurbita okeechobeensis*), and Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*).

The U.S. Army Corps of Engineers (Corps) initiated formal consultation with the U.S. Fish and Wildlife Service (Service) by letter dated June 30, 2006, for the alternative regulation schedule referred to as 1bS2-m. The Corps would like to inform you of changes to the proposed alternative regulation schedule originally coordinated with your office. Based on consideration of public and agency comments, modifications to the preferred alternative were developed in an effort to demonstrate potential improvements to the Caloosahatchee Estuary. This effort required additional modeling and analysis of the model output, which was used to re-evaluate possible effects to system resources, including endangered and threatened species. Your staff has been actively involved as Project Delivery Team members in the evaluation of the latest alternative modifications, and they have provided valuable input towards the attempt to improve its performance. Through an iteration of modifications, the new proposed alternative schedule was developed, and is referred to as alternative T3. The enclosed information highlights the alternative changes and ecological differences.

By letter dated July 21, 2006, the Service concurred with the Corps' determination that alternative 1bS2-m would have "no effect" on the bald eagle, eastern indigo snake, West Indian manatee, and the Cape Sable seaside sparrow, or result in destruction or adverse modification of designated critical habitat for the manatee. The Service also concurred that the project "may affect" the Everglade snail kite, wood stork, and Okeechobee gourd, and will include these three species in the Biological Opinion produced from consultation.

Based on the enclosed updated information, the Corps has determined that alternative T3 would not change the determination of effects on endangered and threatened species and critical habitat, as previously coordinated. Although some trade-offs exist with selection of alternative T3 over alternative 1bS2-m, the Corps believes that the modifications provide greater benefits for all physiographic areas when considering the balance of flood control, water supply, estuaries, and Lake Okeechobee, by causing no further adverse effects to the system.

Since your staff has actively been part of the LORSS PDT, most of the information being provided has already been shared with them. As such, we are hopeful that the new information we are officially providing will not delay completion of the Biological Opinion. It is critical that we meet milestone schedules for completion of the revised Supplemental Environmental Impact Statement, which is scheduled to be released for public review March 1, 2007. Providing the Biological Opinion prior to this date would assist us in meeting this schedule.

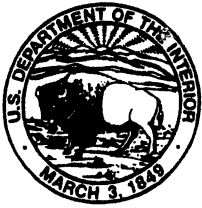
If you have any questions, or require additional information, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie G. Burns". The signature is fluid and cursive, with the first name "Marie" being more prominent.

Marie G. Burns
Chief, Environmental Branch

Enclosures



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



February 13, 2007

Colonel Paul L. Grosskruger
District Commander
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

Service Consultation Code: 41420-2007-I-0323
Project: Lake Okeechobee
Regulation Schedule

Dear Colonel Grosskruger:

The U.S. Fish and Wildlife Service (Service) is preparing a formal consultation in accordance with section 7 of the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*) on the effect of the proposed revisions to the Lake Okeechobee Regulation Schedule (LORS) on the endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*) and its designated critical habitat. We participated in a teleconference on February 6, 2007, with your staff and Mr. Mark Brown of the Department of Justice to discuss the schedule for completing this consultation. The Service is working diligently to complete the necessary analysis and the writing of the consultation. At this time, we have not identified the need for any additional information from the Corps of Engineers to complete the consultation. This letter is to inform you of our progress to date and the schedule for completing the remaining analysis and writing.

Work accomplished to date

The Service participated for more than a year in Project Delivery Team meetings evaluating model runs to reach a Tentatively Selected Plan (TSP); this includes effects on littoral zone of the Lake Okeechobee, which affects habitat suitability for snail kites. Performance measures were also evaluated for Everglades indicator regions, including hydrologic suitability for snail kites. We have begun analyzing new modeling results for the revised TSP that were provided by the Corps in December 2006.

We have completed a Draft Fish and Wildlife Coordination Act Report to be included for public review as an appendix to the Corps' Draft Supplemental Environmental Impact Statement (EIS). This addresses a wide range of issues affecting fish and wildlife, including the lake, the estuaries, and the Everglades. This includes a description of ecological stressors on the littoral zone of Lake Okeechobee, apple snails, and snail kites.



Descriptions of ecological problems affecting the lake will be incorporated in the forthcoming biological opinion because these affect habitat conditions for snail kites.

We reviewed previous informal and formal consultations on the snail kite for information applicable to the current biological opinion. We are using the biological opinion on the Interim Operating Plan for Protection of the Cape Sable Seaside Sparrow as a starting point, which included the latest account for the general biology and status-range-wide for the snail kite.

We reviewed scientific literature with particular attention to publications dealing with the snail kite's use of Lake Okeechobee for foraging and nesting. Several publications include information and theories about the relationship of the lake's hydrology to snail kite use patterns.

The Service obtained and began analyzing geo-referenced information on nesting in Lake Okeechobee from Dr. James Rodgers of the Florida Fish and Wildlife Conservation Commission for data he collected in the 1980s. While the Service already had used Dr. Rodgers data in previous consultations, the information was in the form of printed annual summary reports. In acquiring digital geo-referenced data, we are now able to examine patterns of change relative to more recent GIS data from the 1990s. The main areas of analysis involved overlaying the nest points on vegetation data for the lake to examine habitat suitability patterns and on bathymetry for the lake to examine effects of water stages. Our interpretation of this analysis will be presented for the first time in our forthcoming biological opinion.

GIS coverages for vegetation from the years 1976, 1996, and 2003 were used to perform an analysis of the changes in the quality and quantity of apple snail and snail kite habitat over that period. This will form the basis for our estimation of the continuing level of incidental take resulting from management of Lake Okeechobee. The 2003 coverage was only recently obtained, and the analysis is new to the forthcoming biological opinion.

In addition to assembly of the latest information on the life history, status and trends of the species, and factors affecting the species in the action area, we were able to update the sections of the opinion dealing with the consultation history and our selection of the baseline for the consultation. These sections are essentially completed in the internal draft.

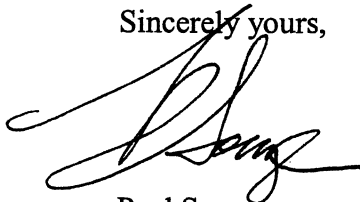
Work remaining to be completed

We are drafting portions of the opinion dealing more in depth with particular aspects of the hydrology of Lake Okeechobee on the snail kite than were in previous reviews. Other consultations had focused on effects of projects in other portions of the species' range, such as the Kissimmee Chain of Lakes, the St. Johns Marsh, the Water Conservation Areas, and Everglades National Park.

We continue to refine the graphics from our GIS analyses to best present them clearly to the readers of the biological opinion. We must also describe generally how these analyses were performed. In addition, we must finalize our analysis of new modeling for the revised TSP. In addition, we must develop Terms and Conditions and Conservation Recommendations to the Corps of Engineers. We anticipate that the reviews will begin in the late March, with signature of the biological opinion by April 15.

If you or your staff has any questions regarding completion of this important consultation, please contact me at 772-562-3909, extension 285. We greatly appreciate the assistance your staff and the staff of the South Florida Water Management District in developing and analyzing the proposed new regulation schedule.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Paul Souza', with a stylized flourish at the end.

Paul Souza
Field Supervisor
South Florida Ecological Services Office

cc:

Corps, Jacksonville, Florida (Yvonne Haberer)
Corps, Jacksonville, Florida (Brooks Moore)
DOI, Miami, Florida (Terrence Salt)
DOJ, Washington, DC (Mark Brown)

National Marine Fisheries Service

Essential Fish Habitat



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

September 16, 2005

Ms. Marie Burns
Planning Division, Environmental Branch
Jacksonville District
Department of the Army, Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Ms. Burns:

The National Marine Fisheries Service (NMFS) has reviewed the Notice of Intent to prepare a Draft Supplemental Environmental Impact Statement (DSEIS) for the Lake Okeechobee Regulation Schedule Study (LORSS) of the Central and Southern Florida Project. The DSEIS will supplement the Final Environmental Impact Statement for the LORSS that was prepared in 2000. The area of interest includes Lake Okeechobee, a large watershed north of the lake, and several downstream estuaries (St. Lucie Estuary, Caloosahatchee Estuary, the Everglades Protection Area, and the Lake Worth Lagoon). The purpose of the study is to examine alternative modifications to the lake's current regulation schedule. The study will consider operational changes to the water management structures that discharge water from the lake as well as criteria used to determine those operations. The study also will consider municipal, agricultural, and industrial water supply, continued flood protection, protection of the lake's environmental resources and its downstream estuaries, water quality, fish and wildlife habitat, endangered and threatened species, and other issues identified during the scoping process.

Lake Okeechobee is hydrologically connected to downstream estuarine waters that support NMFS' trust resources. Therefore, we recommend that the DSEIS include an evaluation of potential impacts to essential fish habitat (EFH), including, but not limited to estuarine waters, mangroves, seagrasses, and live bottom communities. The evaluation may include anticipated benefits to these resources as well as any potential detrimental impacts the project may have on these resources. If significant detrimental impacts are anticipated, then mitigation would be needed.

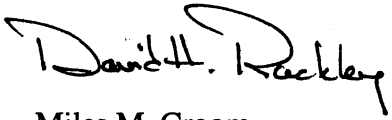
If the proposed action might adversely impact EFH or other living marine resources, those impacts and any related mitigation should be fully described in the environmental impact statement for the project. Requirements concerning EFH coordination and management are contained in the Magnuson-Stevens Fishery Conservation and Management Act, as amended by



the Sustainable Fisheries Act of 1996 (P.L. 104-267). The regulations for implementing coordination are found at 50 CFR 600.920. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." If there are foreseeable direct and/or indirect impacts to EFH associated with the proposed project, an EFH assessment should be prepared. The EFH assessment must include 1) a description of the proposed action; 2) an analysis of anticipated direct, indirect, and cumulative impacts of the proposed action on EFH, Federally managed species, and associated species by life history state; and 3) the federal agency's views regarding the effects of the proposed project on EFH.

We appreciate the opportunity to provide these comments. Related correspondence should be addressed to the attention of Audra Livergood at our Miami Office. She may be reached at 11420 North Kendall Drive, Suite #103, Miami, Florida 33176, or by telephone at (305) 595-8352.

Sincerely,


JZ Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc:

EPA, West Palm (Attn. Ron Miedema)
SFWMD, West Palm (Attn. Ron Peekstock)
F/SER4, Mark Sramek
F/SER47, Livergood



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

AUG 10 2006

Mr. Miles Croom
Assistant Regional Administrator
Habitat Conservation Division
National Marine Fisheries Service
263 13th Avenue South
St. Petersburg, Florida 33701

Dear Mr. Croom:

Pursuant to the National Environmental Policy Act (NEPA), enclosed for your review and comment is a copy of the draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida. The draft SEIS also constitutes our Essential Fish Habitat (EFH) Assessment as required by the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). With this letter, we are initiating EFH consultation with your agency.

The U.S. Army Corps of Engineers has determined the proposed action will not adversely affect essential fish habitat or other marine resources.

We request your comments pursuant to NEPA and MSFCMA within 45 days from the date on which the notice of availability appears in the Federal Register, which is expected to be on August 18, 2006. If you have any questions or need further information, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,

A handwritten signature in black ink, appearing to read "Stuart J. Appelbaum", is located below the "Sincerely," text.

Stuart J. Appelbaum
Chief, Planning Division

Enclosure

Copies Furnished:

**Mr. Rickey N. Ruebsamen, National Marine Fisheries Service, 3500 Delwood Beach Road,
Panama City, Florida 32408-7499**

**Mr. Pace Wilber, National Marine Fisheries Service, 219 Fort Johnson Road, Charleston, South
Carolina 29412-9110**

**Ms. Audra Livergood, National Marine Fisheries Service, 11420 North Kendall Drive, Suite 103,
Miami, Florida 33176**

Haberer, Yvonne L SAJ

From: Robin Wiebler [Robin.Wiebler@noaa.gov]
Sent: Tuesday, July 24, 2007 3:27 PM
To: Haberer, Yvonne L SAJ; Jocelyn Karazsia; Mark Sramek
Subject: Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee

Attachments: No-Objection letter 24 July.doc



No-Objection letter
24 July.do...

National Marine Fisheries Service
Southeast Regional Office
263 13TH Avenue South
St. Petersburg, Florida 33701

July 24, 2007

Colonel Paul L. Grosskruger
District Engineer, Jacksonville District
Department of the Army, Corps of Engineers
Jacksonville Regulatory Office, South Permits Branch
PO Box 4970
Jacksonville, Florida 32232-0019

Dear Colonel Grosskruger:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida. We anticipate that any adverse effects that might occur on NOAA's trust resources would be minimal and, therefore, do not object to authorization by the Department of the Army.

These comments do not satisfy your consultation responsibilities under Section 7 of the Endangered Species Act of 1973, as amended. If any activity(ies) "may effect" listed species and habitats under NOAA's purview, consultation should be initiated with our Protected Resources Division at the letterhead address.

Sincerely,

Pace Wilber (for)

Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

Tribal Coordination

Haberer, Yvonne L SAJ

From: Jinks, Tiphane C SAJ
Sent: Wednesday, October 17, 2007 5:14 PM
To: 'duncan2u@aol.com'
Cc: Milam, J P SAJ; Haberer, Yvonne L SAJ; Moore, Brooks W SAJ; Taplin, Kimberley A SAJ; 'stevet@miccosukeetribe.com'
Subject: RE: Lake Okeechobee Regulation Schedule - Tribal Consultation

Good Afternoon Gene,

In reference to my voicemail message, I wanted to follow-up with you regarding the email message below.

We would like to consult with the Tribe at your earliest convenience.

Thank you,
Tiphane

-----Original Message-----

From: Jinks, Tiphane C SAJ
Sent: Wednesday, October 10, 2007 4:08 PM
To: 'duncan2u@aol.com'; 'stevet@miccosukeetribe.com'
Cc: Milam, J P SAJ; Haberer, Yvonne L SAJ; Moore, Brooks W SAJ; Taplin, Kimberley A SAJ
Subject: Lake Okeechobee Regulation Schedule - Tribal Consultation

Good Afternoon Gene & Steve,

Jacksonville District staff would like to consult with the Miccosukee Tribe on matters relating to the Lake Okeechobee Regulation Schedule.

It is my understanding team members met with the Tribe a few weeks ago and unfortunately there wasn't an opportunity to discuss LORS in that setting.

It is very important to us that team members meet with you prior to the release of the Final Environmental Impact Statement. If I can coordinate a date and time with you on the LORS team's behalf, please advise at your earliest convenience.

Thanks,

Tiphane Jinks

Project Manager/Native American Coordinator Everglades Division US Army Corps of Engineers, Jacksonville District
904-232-1548 - office

Haberer, Yvonne L SAJ

From: Jinks, Tiphane C SAJ
Sent: Wednesday, October 10, 2007 4:08 PM
To: 'duncan2u@aol.com'; 'stevet@miccosukeetribes.com'
Cc: Milam, J P SAJ; Haberer, Yvonne L SAJ; Moore, Brooks W SAJ; Taplin, Kimberley A SAJ
Subject: Lake Okeechobee Regulation Schedule - Tribal Consultation

Good Afternoon Gene & Steve,

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It is my understanding team members met with the Tribe a few weeks ago and unfortunately there wasn't an opportunity to discuss LORS in that setting.

It is very important to us that team members meet with you prior to the release of the Final Environmental Impact Statement. If I can coordinate a date and time with you on the LORS team's behalf, please advise at your earliest convenience.

Thanks,

Tiphane Jinks

Project Manager/Native American Coordinator Everglades Division US Army Corps of Engineers, Jacksonville District
904-232-1548 - office



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

JUL 24 2007

Everglades Division
Central Florida Restoration Branch

Mr. Billy Cypress
Chairman, Miccosukee Tribe of Indians of Florida
Post Office Box 440021
Miami, Florida 33144

Dear Chairman Cypress:

I am writing on behalf of the Jacksonville District U.S. Army Corps of Engineers (Corps) to request government to government consultation with the Miccosukee Tribe of Indians of Florida on the revised Draft Supplemental Environmental Impact Statement (SEIS), Lake Okeechobee Regulation Schedule Study dated June 2007. The Jacksonville District is seeking to consult with the Miccosukee Tribe in accordance with the U.S. Army Corps of Engineers Tribal Policy Principles. We would like to meet with you or your representatives to discuss the Miccosukee Tribe's issues and provide the Tribe with meaningful input into the development of the final version of this document.

The purpose of the SEIS is to address operational changes to the current Water Control Plan. These interim operational changes are necessary to ensure public health and safety as it pertains to the relationship between the regulation schedule and the Herbert Hoover Dike levee system that surrounds the lake. These changes are also necessary due to the continued deterioration of the Lake Okeechobee littoral zone and to both the Caloosahatchee and the St. Lucie estuaries. The current regulation schedule, Water Supply and Environment (WSE), limits some releases when water levels are high, contributing to poor ecological conditions within the lake, and can potentially result in undesirable high volume releases to the estuaries.

We have enclosed one copy of the document for your review. Please contact me or Mr. Pete Milam at (904) 232-3432 to discuss a time and place for the meeting. We look forward to working with the Miccosukee Tribe of Indians of Florida on this important matter.

Sincerely,

Paul L. Grosskruger
Colonel, U.S. Army
District Commander

Enclosure

Copy Furnished:

**Mr. Dexter Lehtinen, General Counsel, Lehtinen, Vargas and Reidi, 7700 North Kendall Drive
No. 303, Miami, Florida 33156**

Ms. Dionne Carroll, In House General Counsel, Post Office Box 440021, Miami, Florida 33144



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

SEP 8 2006

Programs and Project Management Division
North & Central Florida Management Branch

Mr. Billy Cypress
Chairman, Miccosukee Tribe of Indians of Florida
Post Office Box 440021
Miami, Florida 33144

Dear Chairman Cypress:

I am writing on behalf of the U.S. Army Corps of Engineers (Corps), Jacksonville District who would like to request a government-to-government consultation with the Miccosukee Tribe of Indians of Florida, on the Draft Supplemental Environmental Impact Statement (SEIS), Lake Okeechobee Regulation Schedule Study dated August 2006. The Jacksonville District is seeking to consult with the Miccosukee Tribe in accordance with the U.S. Army Corps of Engineers Tribal Policy Principles. We would like to meet with you or your representatives to discuss the Miccosukee Tribe's issues and provide the Tribe with the opportunity to provide meaningful input into the development of the final version of this document.

The purpose of the SEIS is to address operational changes to the current Water Control plan for the period of 2007-2010. These operational changes are necessary to ensure public health and safety as it pertains to the relationship between the regulation schedule and the Herbert Hoover Dike levee system that surrounds the lake and to address the continued deterioration of the Lake Okeechobee littoral zone and both the Caloosahatchee and the St. Lucie estuaries. The current regulation schedule, Water Supply and Environment, limits some releases when water levels are high, contributing to poor ecological conditions within the lake, and can potentially result in undesirable high volume releases to the estuaries. There is also the need to ensure public health and safety as it pertains to the relationship between the regulation schedule and the Herbert Hoover Dike levee system that surrounds the lake.

We have enclosed one copy of the document for your review. Please contact myself or Mr. Pete Milam at (904) 232- 3432, to discuss a time and place for the meeting. We look forward to working with the Miccosukee Tribe of Indians of Florida on this important matter.

Sincerely,

Paul L. Grosskruger
Colonel, U.S. Army
District Commander

Enclosure

Copies Furnished:

**Dexter Lehtinen, General Counsel, Lehtinen, Vargas and Reidi, 7700 North Kendall Drive
No. 303, Miami, Florida 33156**

Dionne Carroll, In House General Counsel, Post Office Box 440021, Miami, Florida 33144



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

SEP 8 2006

Programs and Project Management Division
North & Central Florida Management Branch

Mr. Mitchell Cypress
Chairman, Seminole Tribe of Florida
6300 Stirling Road
Hollywood, Florida 33024

Dear Chairman Cypress:

I am writing on behalf of the U.S. Army Corps of Engineers (Corps), Jacksonville District to request government-to-government consultation with the Seminole Tribe of Florida on the Draft Supplemental Environmental Impact Statement (SEIS), Lake Okeechobee Regulation Schedule Study dated August 2006. The Corps is seeking to consult with the Seminole Tribe in accordance with the U.S. Army Corps of Engineers Tribal Policy Principles. We would like to meet with you or your representatives to discuss the Seminole Tribe's issues and provide the Tribe with the opportunity to provide meaningful input into the development of the final version of this document.

The purpose of the SEIS is to address operational changes to the current Water Control plan for the period of 2007-2010. These operational changes are necessary to ensure public health and safety as it pertains to the relationship between the regulation schedule and the Herbert Hoover Dike levee system that surrounds the lake and to address the continued deterioration of the Lake Okeechobee littoral zone and both the Caloosahatchee and the St. Lucie estuaries. The current regulation schedule, Water Supply and Environment, limits some releases when water levels are high, contributing to poor ecological conditions within the lake, and can potentially result in undesirable high volume releases to the estuaries. There is also the need to ensure public health and safety as it pertains to the relationship between the regulation schedule and the Herbert Hoover Dike levee system that surrounds the lake.

We have enclosed one copy of the document for your review. Please contact myself or Mr. Pete Milam at (904) 232- 3432 to discuss a time and place for the meeting. We look forward to working with the Seminole Tribe of Florida on this important matter.

Sincerely,

Paul L. Grosskruger
Colonel, U.S. Army
District Commander

Enclosure

Copies Furnished:

Mr. Jim Shore, General Counsel, Seminole Tribe of Florida, 6300 Stirling Road, Hollywood,
Florida 33024

Mr. Craig Tepper, Director, Water Resources Department, 6300 Stirling Road, Hollywood,
Florida 33024



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

JUL 24 2007

Everglades Division
Central Florida Restoration Branch

Mr. Mitchell Cypress
Chairman, Seminole Tribe of Florida
6300 Stirling Road
Hollywood, Florida 33024

Dear Chairman Cypress:

I am writing on behalf of the Jacksonville District U.S. Army Corps of Engineers (Corps) to request government to government consultation with the Seminole Tribe of Florida on the revised Draft Supplemental Environmental Impact Statement (SEIS), Lake Okeechobee Regulation Schedule Study dated June 2007. The Corps is seeking to consult with the Seminole Tribe in accordance with the U.S. Army Corps of Engineers Tribal Policy Principles. We would like to meet with you or your representatives to discuss the Seminole Tribe's issues and provide the Tribe with meaningful input into the development of the final version of this document.

The purpose of the SEIS is to address operational changes to the current Water Control Plan. These interim operational changes are necessary to ensure public health and safety as it pertains to the relationship between the regulation schedule and the Herbert Hoover Dike levee system that surrounds the lake. These changes are also necessary due to the continued deterioration of the Lake Okeechobee littoral zone and to both the Caloosahatchee and the St. Lucie estuaries. The current regulation schedule, Water Supply and Environment (WSE), limits some releases when water levels are high, contributing to poor ecological conditions within the lake, and can potentially result in undesirable high volume releases to the estuaries.

We have enclosed one copy of the document for your review. Please contact me or Mr. Pete Milam at (904) 232-3432 to discuss a time and place for the meeting. We look forward to working with the Seminole Tribe of Florida on this important matter.

Sincerely,

Paul L. Grosskruger
Colonel, U.S. Army
District Commander

Enclosure

Copy Furnished:

**Jim Shore, General Counsel, Seminole Tribe of Florida, 6300 Stirling Road, Hollywood,
Florida 33024**

**Craig Tepper, Director, Water Resources Department, 6300 Stirling Road, Hollywood,
Florida 33024**

Public/Private Lands for Storage



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

SEP 25 2007

Everglades Division
Central Florida Restoration Branch

Ms. Carol Ann Wehle
Executive Director
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

Dear Ms. Wehle:

I am writing to follow up on our past correspondence pertaining to the South Florida Water Management District (SFWMD) public/private lands for Lake Okeechobee water storage, as described in Governing Board Resolution 2007-126, dated January 11, 2007. I have enclosed copies of our past correspondence for ease of reference.

As you know, I strongly support this initiative, and as requested in the Governing Board Resolution, the U.S. Army Corps of Engineers (Corps) included language in our revised Lake Okeechobee Regulation Schedule (LORSS) and Tentatively Selected Plan (TSP) Operational Guidance that allows the Corps to work with SFWMD to utilize SFWMD available offsite storage lands. This is an important collaborative effort, to further reduce the need to make high flow releases to the coastal estuaries and provide improvements beyond those the LORSS TSP has the ability to perform. I thank you for your leadership in moving this initiative forward.

At the time the LORSS revised draft Supplemental Environmental Impact Statement (SEIS) was being prepared (June 2007), SFWMD estimated it could have up to 450,000 acre-feet of storage available on public and/or private lands for Lake Okeechobee water storage. The location of these storage sites and the associated infrastructure required for use of these sites had not yet been finalized by the SFWMD. Accordingly, this additional storage was not included in a regional hydrologic model to quantify the anticipated benefits. Instead, Corps staff, based on the information that was available, used an alternate analysis tool for quantification of the potential estuarine benefits that the SFWMD storage initiative may provide. This analysis was included in the LORSS revised draft SEIS. See Section 4.5 – Analysis Completed for Informational Purposes Only: Not a Federal Action.

The Corps 45-day public comment period on our LORSS revised draft SEIS closed on August 20, 2007, and the LORSS team is currently working to address the comments. The Corps received over 145 public submittals and comments on our LORSS revised draft SEIS. A number of the comments requested more clarification on the availability of SFWMD lands and how the Corps and SFWMD would work together in utilizing SFWMD public/private lands for Lake Okeechobee water storage. In order to provide the most current information to the public on this important initiative, please provide any new and/or updated technical information that SFWMD has developed since the release of the revised draft SEIS to Mr. Pete Milam, LORSS Project Manager. This information is

needed by October 15, 2007 in order for us to incorporate it into our final LORSS SEIS. The LORSS team is scheduled to have the Final LORSS SEIS compiled and released for public review on November 2, 2007.

Again, I want to thank you for your leadership and the excellent technical support provided by SFWMD to date on our LORSS effort. I look forward to our continued partnership in restoring Lake Okeechobee, the coastal estuaries and the entire Greater Everglades Ecosystem.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul L. Grosskruger', with a large, stylized flourish above the name.

Paul L. Grosskruger
Colonel, U.S. Army
District Commander

Enclosures



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

FEB 07 2007

Everglades Division
Central Florida Restoration Branch

Ms. Carol Ann Wehle
Executive Director
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

Dear Ms. Wehle:

Thank you for furnishing the U.S Army Corps of Engineers (Corps) a copy of the South Florida Water Management District (SFWMD) Resolution 2007-126, concerning SFWMD storage of Lake Okeechobee water on public and private lands. This resolution was passed by the Governing Board on January 11, 2007.

As you are aware, the Corps strongly supports the SFWMD Public/Private Lands for Emergency Lake Okeechobee Storage Initiative. The Corps has been working with your staff for a number of months and has just completed an evaluation of the benefits that these offsite storage areas could provide to the coastal estuaries. I have enclosed a copy for your information.

In further support of this initiative, the Corps has included language in our revised Lake Okeechobee Regulation Schedule Study Operational Guidelines that states our authority and ability to provide Lake Okeechobee water to the SFWMD for offsite storage to help further reduce the need for making high flow releases to the Caloosahatchee and St. Lucie estuaries. I look forward to our continued partnership in restoring Lake Okeechobee, the coastal estuaries, and the entire Everglades ecosystem.

Sincerely,

Paul L. Grosskruger
Colonel, U.S. Army
District Commander

Enclosure

SFWMD Public Lands Storage Initiative:

Evaluation to quantify potential estuarine
benefits under the proposed new Lake
Okeechobee Regulation Schedule

(18 JAN 2007: DRAFT)

Analysis Assumptions

- LORSS TSP simulation mean monthly flows from the SFWMM are used for the analysis
- SFWMD Public lands will be available for water storage, including all necessary conveyance and control infrastructure
- Storage will be utilized to capture Lake Okeechobee regulatory releases when undesirable “high” flows are experienced at the St. Lucie below S-80 (SLE) and Caloosahatchee at S-79 (CRE) Estuaries:
 - Storage lands may be utilized north of the Lake, south of the Lake, or within the C-43 or C-44 basins, prior to release to the estuaries;
 - the water stored is assumed to not later enter the Lake, or to be used for irrigation or any other purpose that would affect the Lake stage;
 - SFWMM mean monthly flows for the LORSS TSP will be used to identify months with undesirable high flows to the estuaries (Period-of-record is 1965-2000)
 - Separate analyses are conducted assuming capture of Lake releases when estuaries were simulated to receive extreme high flows (CRE > 4500 cfs and SLE > 3000 cfs) and intermediate high flows (CRE > 2800 cfs and SLE > 2000 cfs)
- Storage will not be utilized to capture local runoff in the C-43 and C-44 basins, which also contribute to the undesirable “high” flows

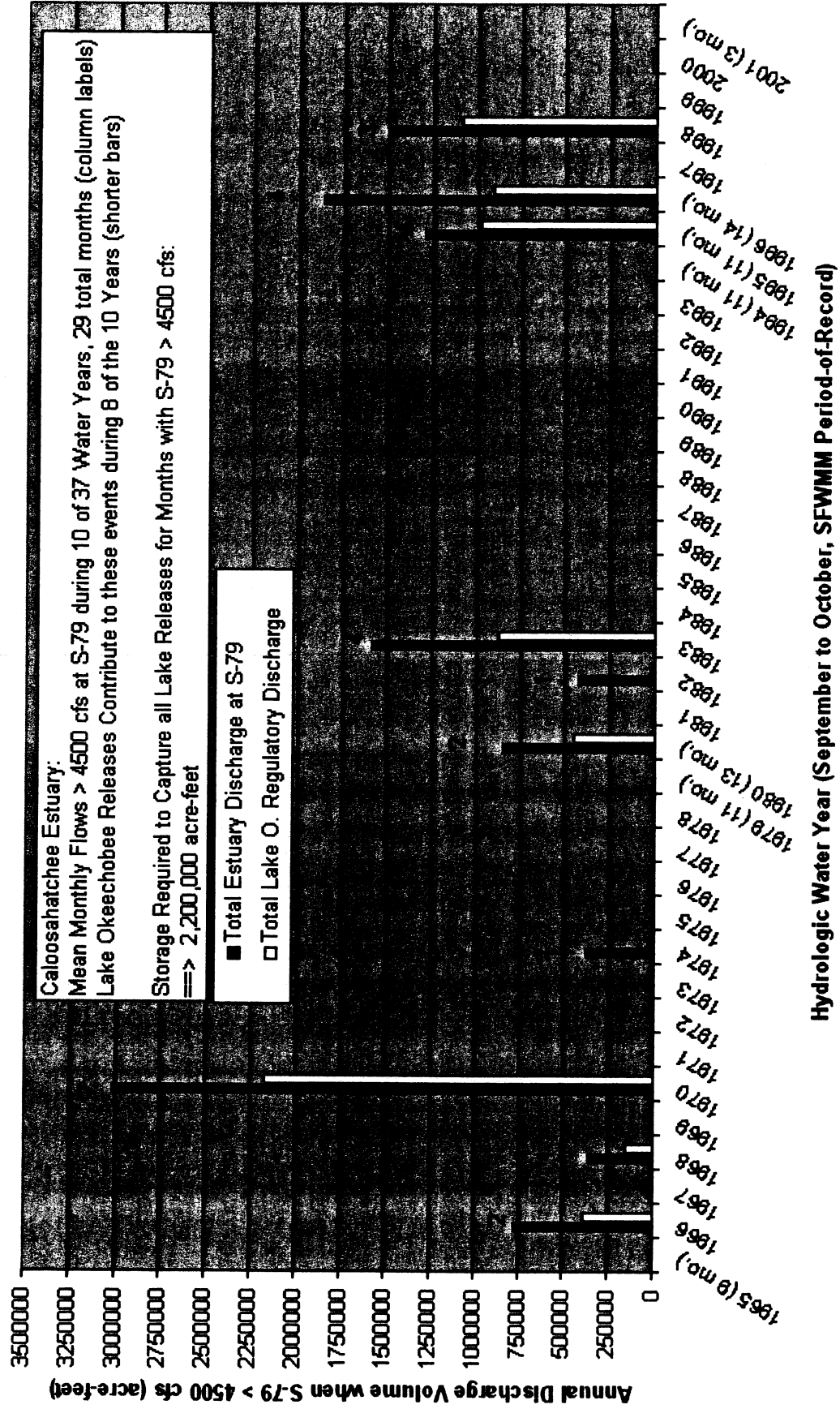
Analysis Assumptions, continued

- Storage volumes are available at the start of each water year
 - If all available storage volume is used up during a given water year, the remaining Lake regulatory releases are sent to the estuaries based on the LORSS TSP simulation output (monthly flows are reduced for partial months captured)
 - Water Years (October 1 through September 30, 12 months) are adjusted when consecutive “high” flow months extend across two water years, to ensure storage is not assumed available due to the transition to the next water year (ending water year is extended; starting water year is shortened)
- 2 Potential Available Storage Conditions are evaluated:
 - 150,000 acre-feet (lands presently identified by SFWMD) and 450,000 acre-feet (stated target of SFWMD)
 - Equal halves of the total available storage volume are assumed available to the CRE and SLE estuaries for each water year
 - If all Lake releases during SLE high flow months are captured during a given water year, the “excess” storage volume is available to reduce CRE high flow months

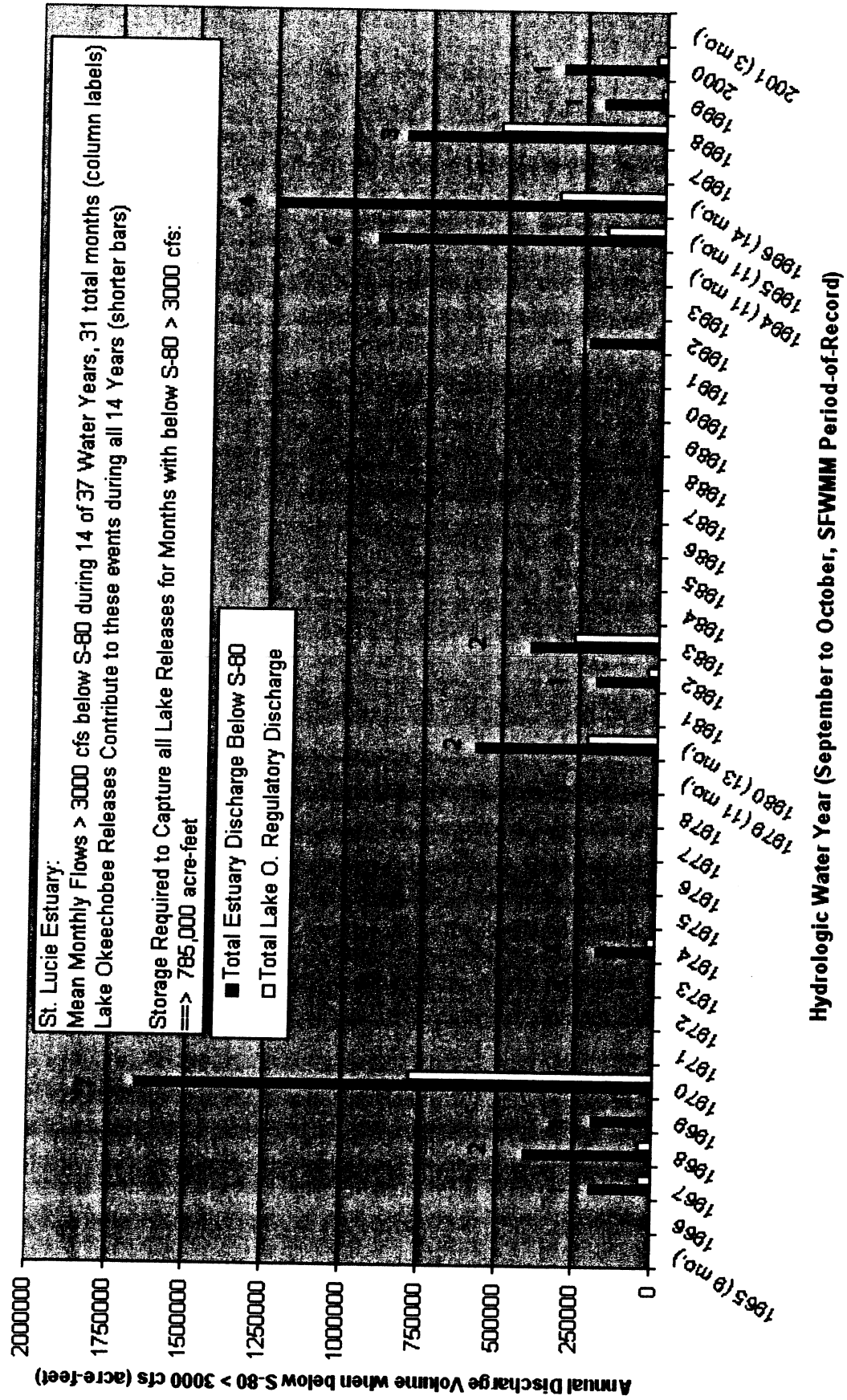
Extreme High Estuary Flows Evaluation

- Criteria: CRE > 4500 cfs; SLE > 3000 cfs
- Frequency of Occurrence of extreme high estuary flows and Annual Water Year Contributions from Lake Okeechobee Regulatory Releases
- Storage requirements to capture a specified percentage of the water years with extreme high estuary flows
 - Number of water years differs for CRE and SLE (use % to normalize)
- Potential reduction in the number of months with extreme high estuary flows for 150 kAF and 450 kAF storage scenarios

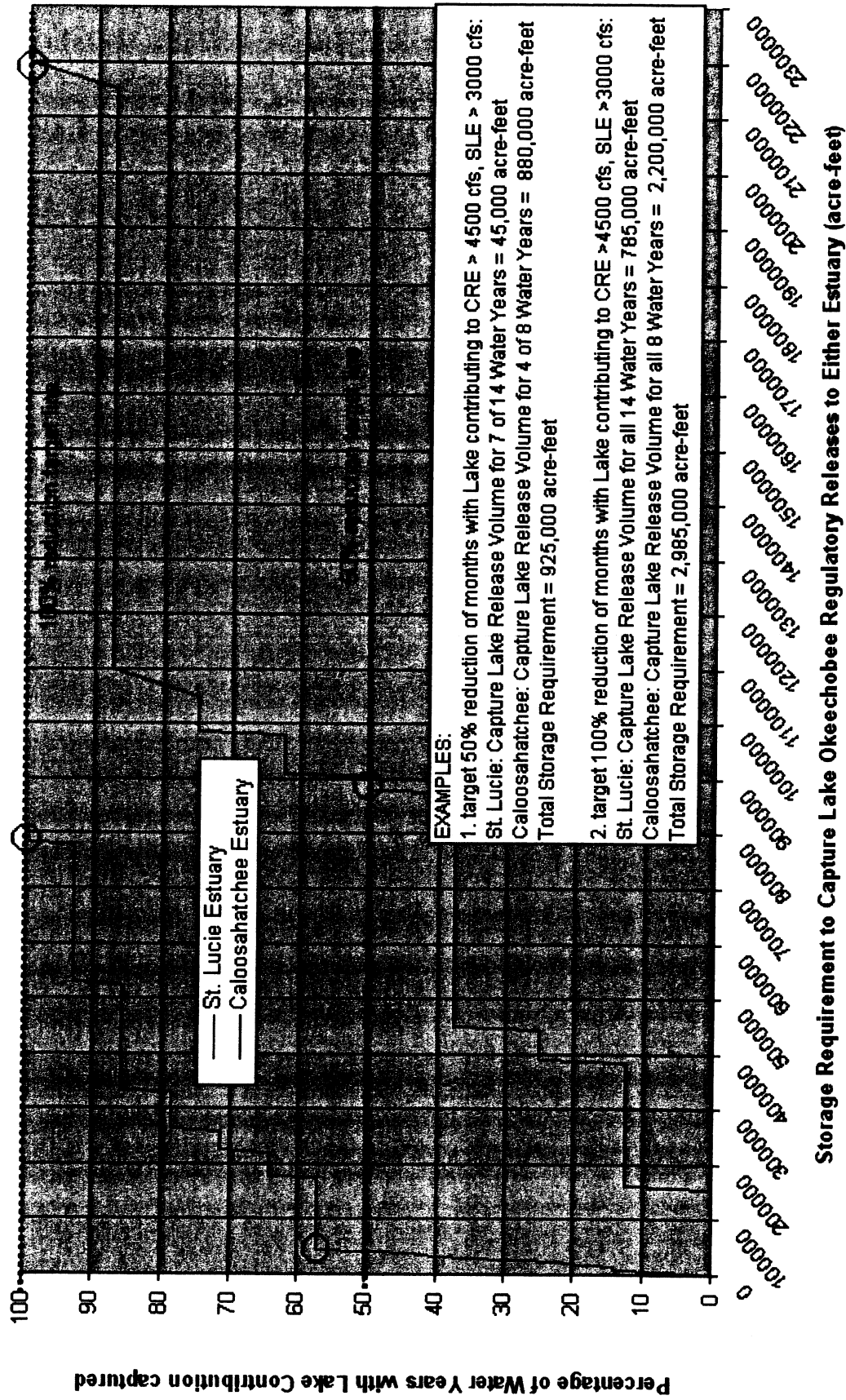
TSP Alternative T3: Total Volume to Caloosahatchee River Estuary and Total Volume from Lake Okeechobee when S-79 Mean Monthly Flow Rate Threshold of 4500 cfs is Exceeded



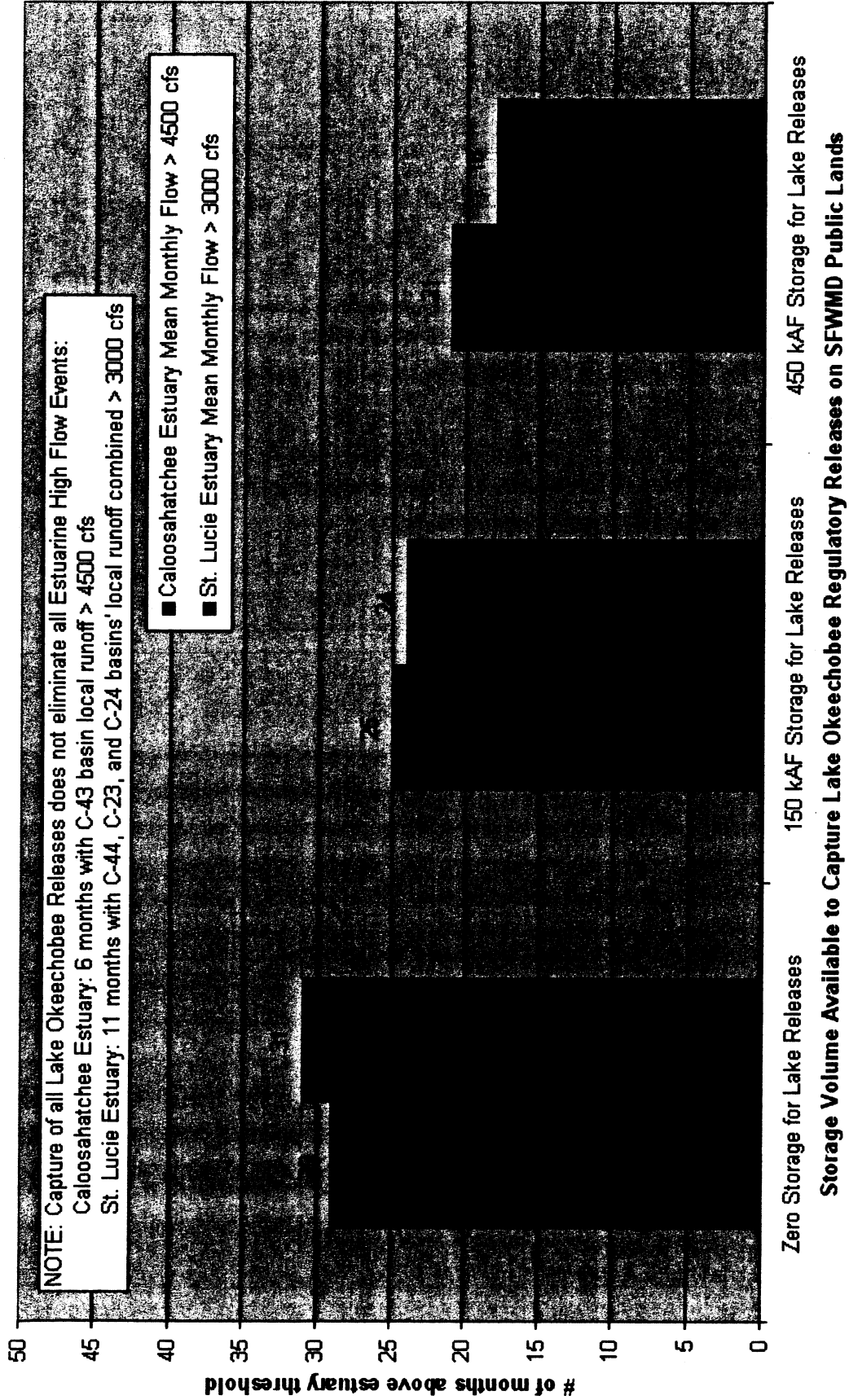
TSP Alternative T3: Total Volume to St. Lucie Estuary and Total Volume from Lake Okeechobee when Below S-80 Mean Monthly Flow Rate Threshold of 3000 cfs is Exceeded



**TSP Alternative T3: Storage Requirement to Capture Lake Okeechobee Regulatory Releases
During High Flow Months for Coastal Estuaries:
Caloosahatchee River (4500 cfs Threshold) and St. Lucie (3000 cfs Threshold)**



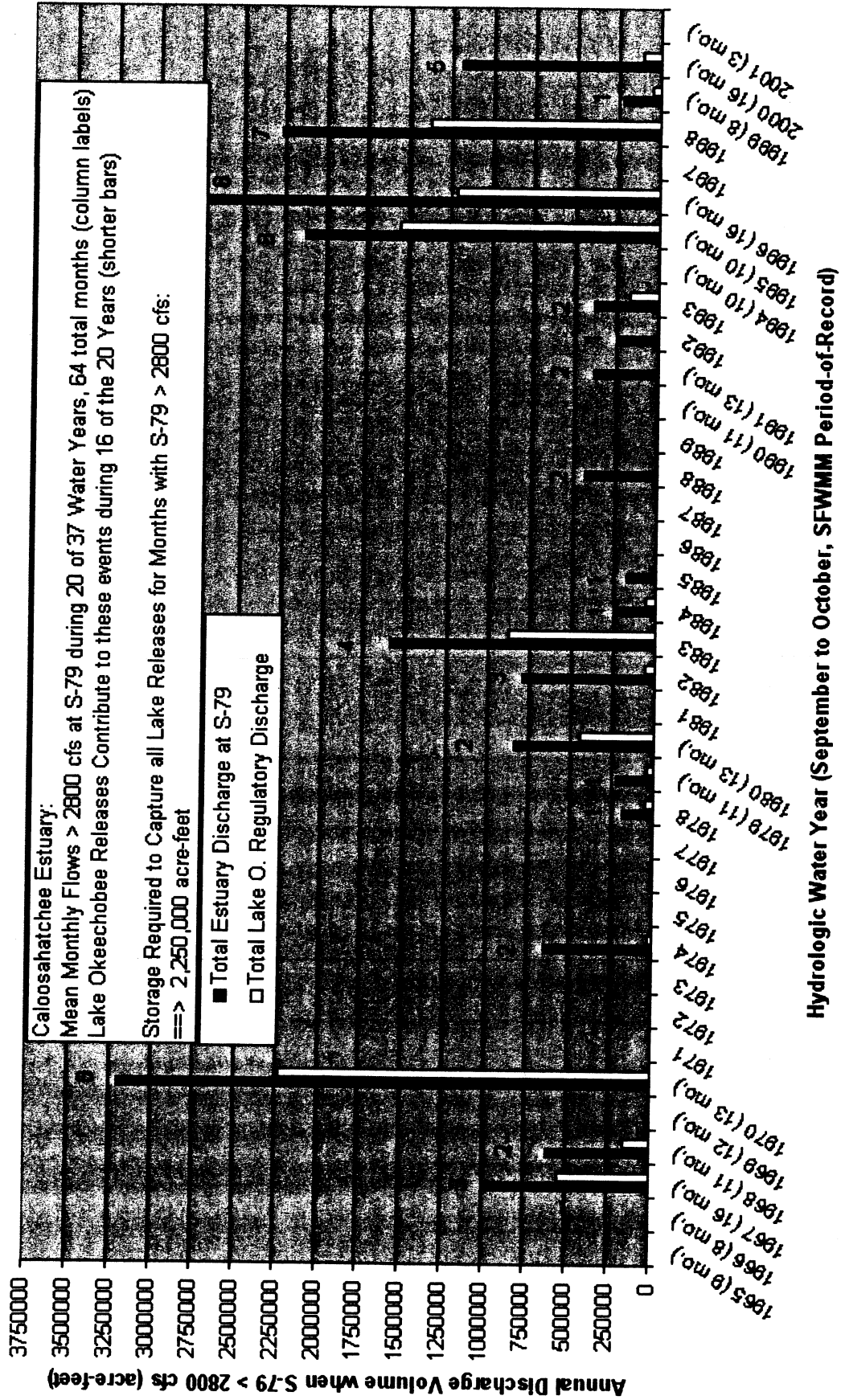
**SFWMD Public Lands Water Storage Initiative: Reduction in Estuarine High Flow Months
Contributed to by Lake Okeechobee Regulatory Releases by the Capture of all Lake Releases
during months when CRE flows > 4500 cfs or SLE flows > 3000 cfs under TSP**



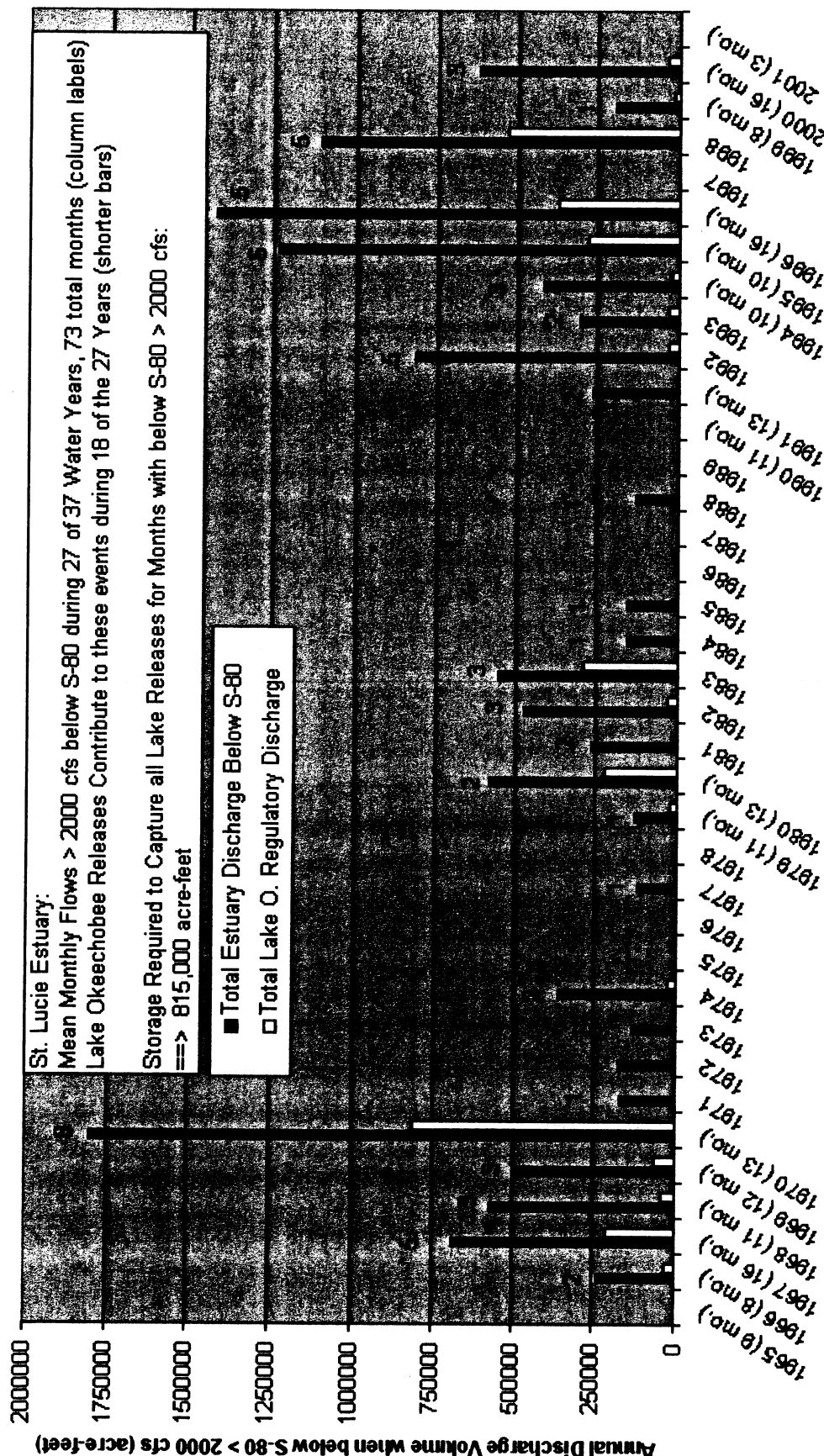
Intermediate High Estuary Flows Evaluation

- Criteria: CRE > 2800 cfs; SLE > 2000 cfs
- Frequency of Occurrence of intermediate high estuary flows and Annual Water Year Contributions from Lake Okeechobee Regulatory Releases
- Storage requirements to capture a specified percentage of the water years with intermediate high estuary flows
 - Number of water years differs for CRE and SLE (use % to normalize)
- Potential reduction in the number of months with intermediate high estuary flows for 150 kAF and 450 kAF storage scenarios

TSP Alternative T3: Total Volume to Caloosahatchee River Estuary and Total Volume from Lake Okeechobee when S-79 Mean Monthly Flow Rate Threshold of 2800 cfs is Exceeded

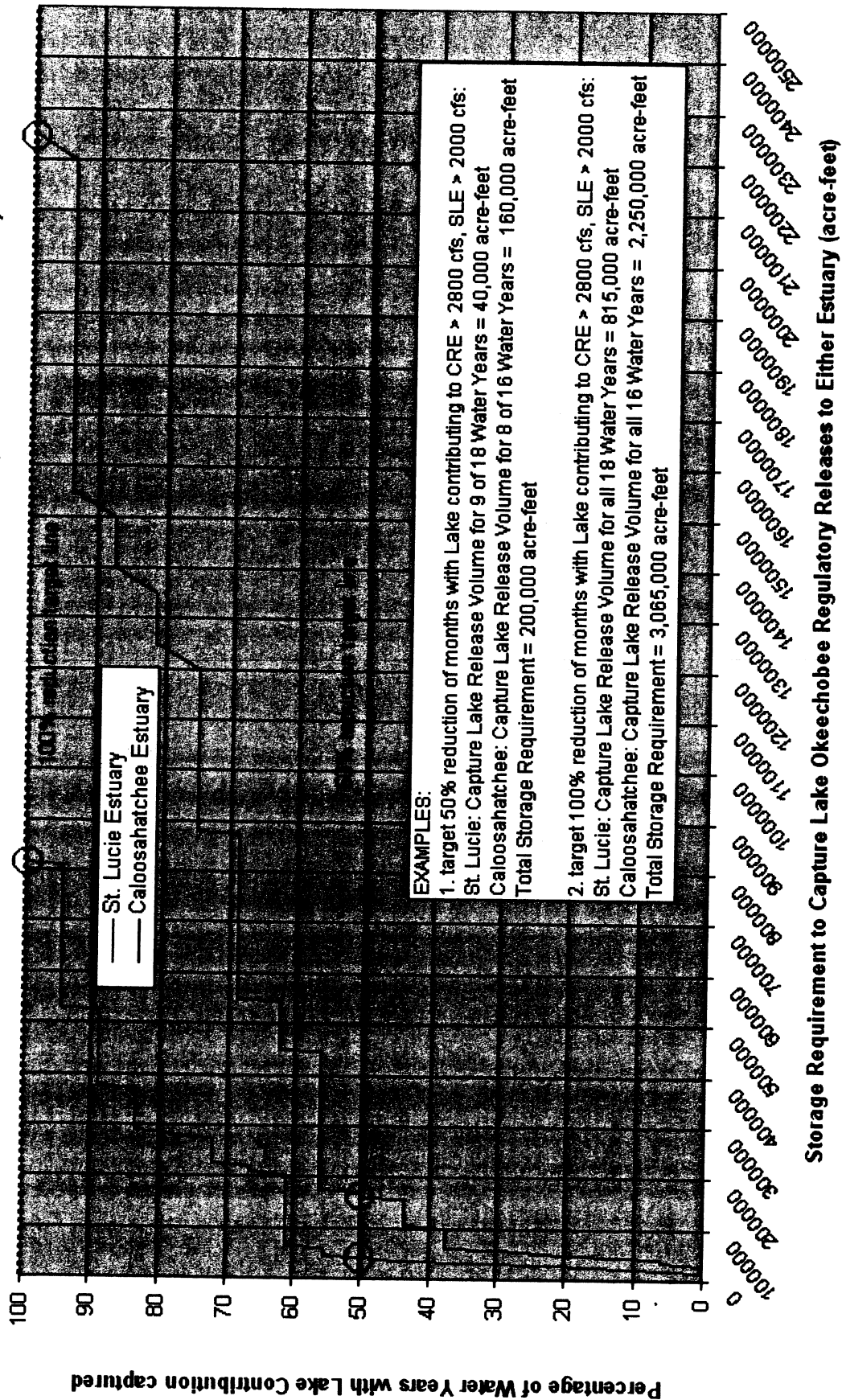


TSP Alternative T3: Total Volume to St. Lucie Estuary and Total Volume from Lake Okeechobee when Below S-80 Mean Monthly Flow Rate Threshold of 2000 cfs is Exceeded

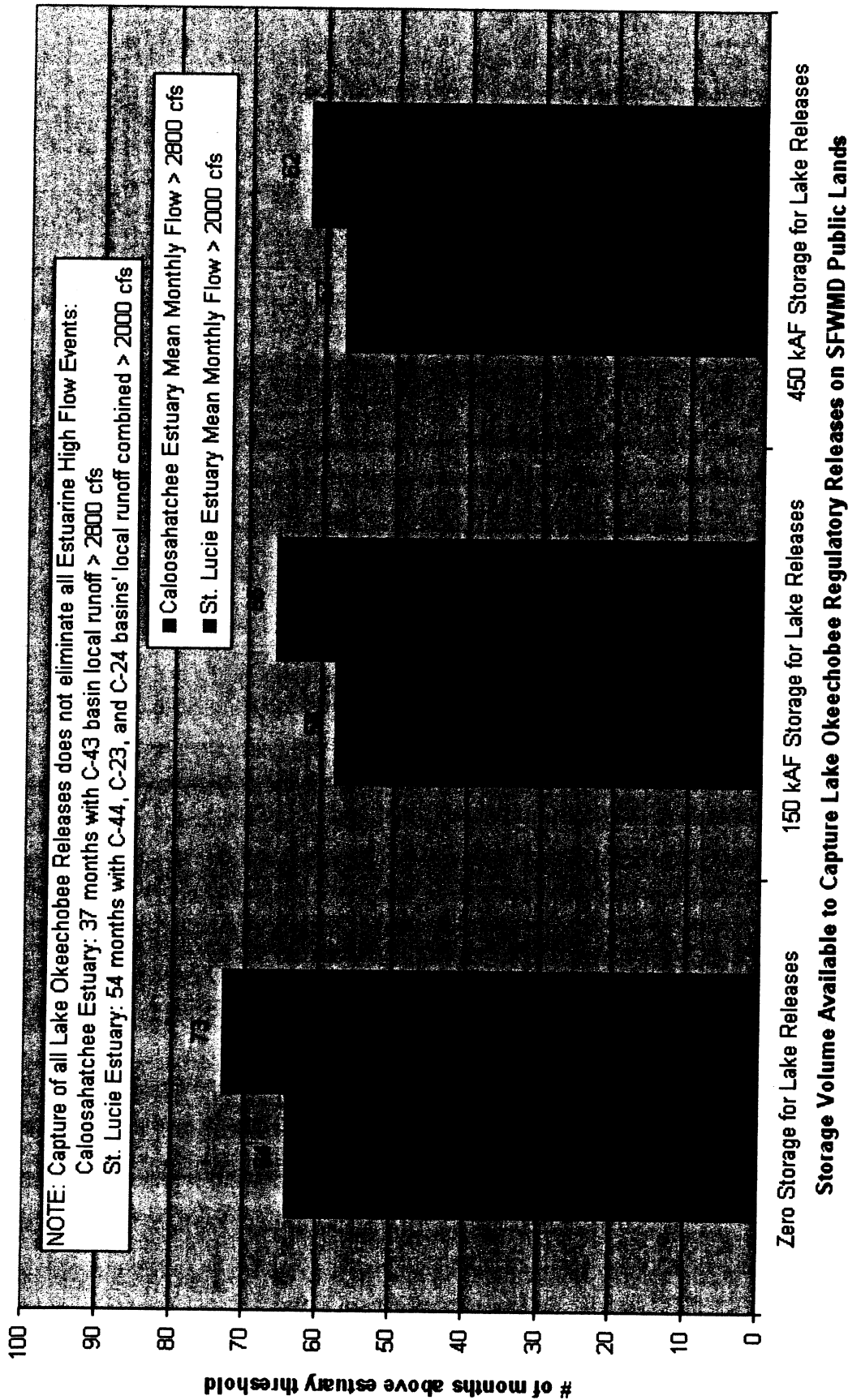


Hydrologic Water Year (September to October, SFWMM Period-of-Record)

**TSP Alternative T3: Storage Requirement to Capture Lake Okeechobee Regulatory Releases
During High Flow Months for Coastal Estuaries:
Caloosahatchee River (2800 cfs Threshold) and St. Lucie (2000 cfs Threshold)**



SFWMD Public Lands Water Storage Initiative: Reduction in Estuarine High Flow Months Contributed to by Lake Okeechobee Regulatory Releases by the Capture of all Lake Releases during months when CRE flows > 2800 cfs or SLE flows > 2000 cfs under TSP



Evaluation of Storage Utilization Timing:

- Trade-offs should be considered when developing guidelines for the utilization of SFWMD public lands storage to capture Lake Okeechobee Regulatory Releases to reduce the potential for high flow events experienced by the CRE and SLE estuaries.
- Utilization of storage during intermediate high flow events experienced by the estuaries may reduce or eliminate storage availability under extreme high flow events that may follow:
 - 150 kAF available storage scenario:
 - Utilization of storage starting at intermediate high flows (CRE > 2800 cfs; SLE > 2000 cfs) results in additional months of extreme high flows (CRE > 4500 cfs; SLE > 3000 cfs): 3 additional months to the CRE (28 compared to 25) and 1 additional month to the SLE (25 compared to 24);
 - 450 kAF available storage scenario:
 - Utilization of storage starting at intermediate high flows results in additional months of extreme high flows: 2 additional months to the CRE (23 compared to 21) and 1 additional month to the SLE (19 compared to 18)
- Similarly, utilization of storage to capture local basin runoff may reduce or eliminate storage availability to capture Lake Okeechobee Regulatory Releases that may follow.



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

DE
OF: DP
EN

January 16, 2007

Colonel Paul L. Grosskruger
District Commander
U. S. Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, FL 32207-8175

Dear Colonel Grosskruger:

22 Jan 07

**Subject: South Florida Water Management District Governing Board
Resolution concerning storage of Lake Okeechobee water
on private lands**

Attached is a Resolution of the South Florida Water Management District (District) Governing Board concerning storage of Lake Okeechobee water on private lands. This Resolution was passed unanimously at the Governing Board's January 11, 2007 meeting.

The Resolution requests the United States Army Corps of Engineers to take into consideration increased storage capacity on public and private lands in the Okeechobee Watershed in addition to its modification of the Lake Okeechobee Water Control Plan as part of the ongoing Lake Okeechobee Regulation Schedule Study for the purpose of achieving a more refined balance between the competing needs of the Lake and estuarine ecosystems, flood control, and water supply and routinely operating the Lake at lower levels. Additionally, the Resolution encourages the Nine County Coalition members to adopt similar Resolutions supporting the utilization of additional storage in the Okeechobee Basin. We are also hopeful that other municipalities in the region will adopt resolutions in support of these efforts.

After reviewing the Resolution, please do not hesitate to contact me if you have any questions. The District's Governing Board and staff look forward to accomplishing these objectives in a collaborative manner with all affected stakeholders.

Sincerely,

Carol Ann Wehle
Executive Director

CAW/er

Attachment

GOVERNING BOARD

Kevin McCarty, *Chair*
Irela M. Bagué, *Vice-Chair*
Miya Burt-Stewart

Alice J. Carlson
Michael Collins
Nicolás J. Gutiérrez, Jr., Esq.

Lennart E. Lindahl, P.E.
Harkley R. Thornton
Malcolm S. Wade, Jr.

EXECUTIVE OFFICE

Carol Ann Wehle, *Executive Director*

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

RESOLUTION NO. 2007- 126

A RESOLUTION OF THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT REQUESTING THE U.S. ARMY CORPS OF ENGINEERS TO CONTINUE TO TAKE INTO CONSIDERATION AVAILABILITY OF INCREASED STORAGE CAPACITY AS IT ADOPTS AND IMPLEMENTS A MODIFIED LAKE OKEECHOBEE WATER CONTROL PLAN FOR THE PURPOSE OF ACHIEVING A MORE REFINED BALANCE BETWEEN THE COMPETING NEEDS OF THE LAKE, ESTUARINE ECOSYSTEMS AND THE GREATER EVERGLADES ECOSYSTEM; FLOOD CONTROL, RECREATION AND WATER SUPPLY; AND ROUTINELY OPERATING THE LAKE AT LOWER LEVELS WHILE ADDRESSING THE MULTI-PURPOSE OBJECTIVES OF THE LAKE; PROVIDING AN EFFECTIVE DATE.

WHEREAS, the regulation schedule for Lake Okeechobee is established pursuant to federal law and is embodied in the Lake Okeechobee Water Control Plan ("WCP"); and

WHEREAS, the Project enabling legislation states that the Project must be maintained and operated in accordance with regulations prescribed by the Secretary of Army; and

WHEREAS, the South Florida Water Management District ("District"), as the local sponsor of the Central and Southern Flood Control Project ("Project") pursuant to section 373.103(2), Florida Statutes, is subject to and bound by the federally established Lake Okeechobee WCP in its operation of Lake Okeechobee structures; and

WHEREAS, the District may, pursuant to federal law, make recommendations or requests of the federal government concerning Lake Okeechobee operations; and

WHEREAS, the Lake Okeechobee WCP and associated federal laws recognize the multi-purpose nature Lake Okeechobee operations and that such operations provide for such multi-purpose discharges from the Lake as: flood control releases; water supply releases for

estuarine, fish and wildlife, as well as human purposes; and releases for water quality purposes; and

WHEREAS, the health of Lake Okeechobee and its native plant and animal life have, for a variety of reasons, declined in recent years; and

WHEREAS, some of the primary reasons for the decline in the Lake's health include consistently high water levels, excessive phosphorus loading, and rapid expansion of exotic plants; and

WHEREAS, in 2004 the Lake's health was also adversely affected by several hurricanes which exacerbated existing water quality and high water level issues; and

WHEREAS, high Lake water levels have also resulted in substantial discharges to the St. Lucie Estuary and Caloosahatchee River such that concern exists regarding the health of these waterbodies; and

WHEREAS, appropriate modifications to the Lake's regulation schedule are needed to better accomplish the multi-purpose Lake functions and to benefit the Lake and estuarine ecosystems, particularly if made in conjunction with structural changes enabling water supply deliveries from the Lake at lower levels; and

WHEREAS, the Governing Board of the South Florida Water Management District previously passed a Resolution seeking a more balanced Lake Okeechobee Water Control Plan, including the consideration of routinely operating the lake at lower levels while addressing the multi-purpose objectives of the lake including the installation and operation of forward pumps; and

WHEREAS, the U.S. Army Corps of Engineers ("COE") has initiated a Lake Okeechobee Regulation Schedule Study (LORSS) for the purpose of ensuring public health and safety, managing the Lake at lower levels, and reducing high regulatory releases to the estuaries, while continuing to meet the Congressionally authorized project purposes; and

WHEREAS, availability of storage on public and private public lands to allow for a long term reduction of high Lake stages should continue to be considered in addition to development and implementation of a revised Lake Okeechobee regulation schedule; and

WHEREAS, the South Florida Water Management District, with assistance from the Florida Legislature, is actively pursuing alternative storage sites in the Okeechobee Basin, and

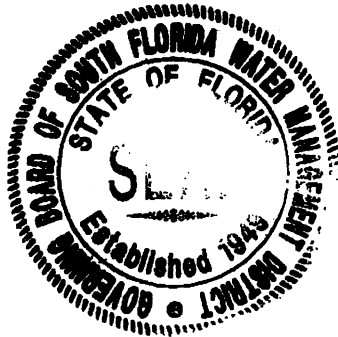
**NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF
THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT:**

Section 1. The Governing Board of the South Florida Water Management District requests the COE take into consideration increased storage capacity on public and private lands in the Okeechobee Watershed in its addition to its modification of the Lake Okeechobee Water Control Plan as part of the ongoing Lake Okeechobee Regulation Schedule Study for the purpose of achieving a more refined balance between the competing needs of the lake and estuarine ecosystems, flood control, and water supply and routinely operating the lake at lower levels; and

Section 2. The Governing Board of the South Florida Water Management District hereby encourages member counties of the Nine-County Coalition and other affected local governments to adopt similar Resolutions supporting the utilization of additional storage in the basin.

Section 3. This Resolution shall take effect immediately upon adoption.

PASSED and ADOPTED this 11 day of January, 2007.



ATTEST By:

Sachi McGarity
District Clerk/Secretary

**SOUTH FLORIDA WATER MANAGEMENT
DISTRICT, BY ITS GOVERNING BOARD**

By:

James McCarty
Chairman

Approved as to form:

By: *E. D. R...* 1/10/07
Office of Counsel



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

EX06-113

November 20, 2006

The Honorable Carla Brooks Johnston
Mayor, City of Sanibel
800 Dunlop Road
Sanibel, FL 33957-4096

Dear Mayor Johnston

Subject: Lake Okeechobee Water Regulation Schedule

Thank you for your letter of November 9 regarding the need to move forward on incorporation of emergency water storage sites in the evaluation of the Lake Okeechobee Regulation Schedule. As you have documented, our staff have been diligently working to identify sites that may serve for temporary water storage under emergency conditions. We have provided a list of these interim sites to the U.S. Army Corps of Engineers (USACE), which has the lead on the revisions to the Lake operating schedule.

At this time we are pursuing a contract to more clearly delineate potential storage on the interim lands and the type and extent of infrastructure necessary to store water on these sites. It is our intent to have this completed by the next wet season. Construction of the necessary infrastructure will then proceed with those sites that can be most readily modified first. This information will also be provided to the USACE.

The USACE has indicated to us that, at this time, they could not incorporate the emergency storage in the modeling for the new Lake Okeechobee regulation schedule due to the lack of detailed information on these sites, including the planned infrastructure improvements, conveyance capacities, storage volumes and operational protocols. It is felt that incorporation of these emergency storage sites would best be referenced in the USACE water control plan so that as these and other storage options become available they could be utilized as found necessary jointly by the South Florida Water Management District and USACE.

We have included a map and table of the Lake Okeechobee and Estuary Recovery Plan surface water storage/disposal projects that are on-going. In addition to these projects there are ground water storage/disposal projects being implemented that will aid in reducing the volume of releases to the estuaries.

GOVERNING BOARD

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Irela M. Bagué, *Vice-Chair*
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Nicolás J. Gutiérrez, Jr., *Esq.*

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Lennart E. Lindahl, *P.E.*
Harkley R. Thornton
Malcolm S. Wade, *Ir.*

The Honorable Carla Brooks Johnston
November 20, 2006
Page 2

If you have any additional comments please do not hesitate to contact my staff or my office directly.

Sincerely,



Carol Ann Wehle
Executive Director
South Florida Water Management District

CAW/sg

Enclosures: Ongoing Water Storage/Disposal Projects Table & Map

c: Ernie Barnett, SFWMD
Kenneth B. Cuyler, City Attorney w/attachment
Richard S. Davis, Esq.
Dennis Duke, Restoration Program Division Chief, USACE
Susan Gray, SFWMD
Colonel Paul L. Grosskruger, USACE
Dr. Rob Loflin, Natural Resources Director
Chip Merriam, SFWMD
Pete Milam, Project Manager, USACE
Sanibel City Council w/attachment
Fred R. Wagner, Esq.
Benita Whalen, SFWMD
Judith A. Zimomra, City Manager w/attachment



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DP
Ante mla
09/18/06

September 18, 2006

FACSIMILE: (904) 232-2200

Colonel Paul L. Grosskruger
U.S. Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Colonel Grosskruger:

Thank you for your letter dated September 05, 2006 responding to the offer to use land owned by the South Florida Water Management District (SFWMD) for emergency storage of Lake Okeechobee regulatory water releases.

We have taken your concerns regarding containment systems and the conveyance of Lake Okeechobee waters onto or off the proposed sites into consideration. However, due to the critical need to provide immediate relief to the Caloosahatchee and St. Lucie estuaries, the SFWMD plans to immediately move forward and pursue the proposed lands as options for additional water storage.

In the meantime, SFWMD Deputy Executive Director of Water Resources Chip Merriam will contact your staff soon to continue discussions relative to the outlined parcels. We look forward to continuing to work with the Corps to explore and ready these and other available tracts of lands for additional water storage.

Sincerely,

A handwritten signature in black ink that reads "Carol Ann Wehle".

Carol Ann Wehle
Executive Director

CAW/rw

c: Ken Cuyler, Sanibel City Attorney
Tammy Hall, Lee County Commissioner
Carla Brooks Johnson, Mayor, City of Sanibel
John Dunnuck, SFWMD
George Horne, SFWMD
Chip Merriam, SFWMD

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Harkley R. Thornton
Malcolm S. Wade, Jr.

Carol Ann Wehle, *Executive Director*



**DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P.O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019**

REPLY TO
ATTENTION OF

SEP 5 2006

**Programs and Project Management Division
North & Central Florida Management Branch**

**Ms. Carol Wehle
Executive Director
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680**

Dear Ms. Wehle:

This is in response to your letter dated June 1, 2006, concerning the use of certain South Florida Water Management District (SFWMD) owned lands for emergency storage of Lake Okeechobee regulatory water releases.

I commend the SFWMD for aggressively moving forward with land purchases in support of the Greater Everglades Comprehensive Everglades Restoration Project. I also appreciate the offer of making these certain tracts of land available to the U.S. Army Corps of Engineers (Corps) for our immediate use if regulatory releases are required this year in managing Lake Okeechobee water conditions, so that the coastal estuaries would not have to bear the full burden of the regulatory flow releases. The management of flow releases from the lake is a complex issue and your insights and support are greatly appreciated.

In discussions with Mr. John Dunnuck of your staff, concerning the possible use of these lands for emergency storage of Lake Okeechobee discharges, it appears that these tracts of land currently have challenges in conveyance of Lake Okeechobee water onto or off of these sites, as well as not having containment systems in place for storing water. Although this suggestion has merit, without specific Federal authority, funding, and environmental coordination, the Corps is unable to move forward in readying these sites to receive regulatory releases from Lake Okeechobee. However, I would like to use this opportunity to explore with you ways that we could work together in readying these tracts of land to receive Lake Okeechobee water releases, as well as exploring opportunities in utilizing the Rotenberger, Holey Land, and other tracts of land for emergency storage, as was done in 2004.

I suggest that our technical staff schedule a one-day meeting to explore these and other opportunities. Mr. Pete Milam, Senior Project Manager, at 904-232-3432, will be in contact with Mr. John Dunnuck to confirm a date. I greatly value the partnership between the SFWMD and the Corps and aim to bring our relationship to even a higher level. I agree that there is great

potential ahead in supporting Acceler8 and other initiatives that better manage and utilize our precious water resources.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul L. Grosskruger", with a large, stylized loop at the end.

Paul L. Grosskruger
Colonel, U.S. Army
District Commander

Copies Furnished:

Mr. Kenneth Cuyler, City Attorney, 800 Dunlop Road, Sanibel, Florida 33957
Ms. Tammy Hall, County Commissioner, Lee County, District 4, Post Office Box 398, Fort Myers, Florida 33902-0398
Ms. Carla Johnson, Mayor, City of Sanibel, 800 Dunlop Road, Sanibel, Florida 33957-4096
Mr. John Dunnuck, South Florida Water Management District, Post Office Box 24680, West Palm Beach, Florida 33416-4680
Mr. George Horne, South Florida Water Management District, Post Office Box 24680, West Palm Beach, Florida 33416-4680



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June 1, 2006

Colonel Robert M. Carpenter
U.S. Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Colonel Carpenter:

Subject: City of Sanibel

In the meeting with the City of Sanibel, your staff indicated that the U.S. Army Corp of Engineers would need specific authorization from the South Florida Water Management District (District) to be able to incorporate District lands into any emergency storage plans that you are developing. By way of this letter, we urge you to include the District owned lands described on the attached, as storage options in your planning. Based on the uses, some of the properties will be better candidates than others. Please work with Mr. John Dunnuck, Director of our Land Management and Operations Department at 561-682-6016 to help your staff prioritize the opportunities.

As always, we stand ready to provide any assistance that we can to your agency to meet your challenges in managing the lake levels and making the important and needed repairs to the Herbert Hoover Dike (Dike). We all recognize that although it is your agency that is responsible for both the Dike and the management of Lake Okeechobee that we can all help. In addition to providing the above reference land, we and our partner local governments are working hard to generate additional federal funding to move these critical issues forward faster.

Also please know that while your agency deals with lake levels and dike repairs that we will be doing our part by moving forward with all speed to get the Acceler8 projects built. Given the status of the Dike, we believe that the Acceler8 projects have become even more important than ever. The massive Acceler8 reservoirs will certainly provide your agency with options of where to put thousands upon thousands of acre feet of lake water that it simply does not have today. As a result, we are going to ask that you continue to push your staff to provide the Planning Implementation Reports and 404 permit reviews as soon as possible.

GOVERNING BOARD

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Irela M. Bagué, *Vice-Chair*
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EXECUTIVE OFFICE

Carol Ann Wehle, *Executive Director*

Colonel Robert M. Carpenter
June 1, 2006
Page 2

We appreciate the substantial changes that you have made in your processes that have facilitated the Acceler8 program. Today, we are looking for you and your successor to keep the pressure on, ensuring that these critical projects move forward without delay. We, the coastal communities, the communities that surround Lake Okeechobee and all of South Florida cannot afford to let anything stand in the way of the successful start and completion of the Acceler8 projects.

Thanks as always for the strong relationships that we have been able to maintain between our agencies. We will look forward to providing you with support for your work as we know we can count on you to do for us.

Sincerely,



Carol Ann Wehle
Executive Director
South Florida Water Management District

CAW/lt
Attachment

c: Mr. Ken Cuyler, City Attorney
John Dunnuck
Ms. Tammy Hall, County Commissioner
George Horne
Ms. Carla Johnson, Mayor

Colonel Robert M. Carpenter
June 1, 2006
Page 3

Interim Sites (District-owned property for future projects)	County	Site Acreage
Grassy Island Reservoir	Okeechobee	4,785
Lakeside Ranch STA	Okeechobee	2,623
New Palm Dairy STA	Okeechobee	800
C-44 Reservoir & STA	Martin	12,000
C-23/24 STA & Reservoir	St. Lucie	7,000
C-43 Reservoir	Hendry	20,000
EAA STA Expansion	Palm Beach, Hendry	4,560
Allapattah (Parcel "C")	Martin	2,410
Cypress Creek	Martin	2,000
Palm Beach County Aggregates	Palm Beach	1,220
EAA Reservoir	Palm Beach	15,700
Pearce	Glades	4,700
Paradise Run	Highlands, Okeechobee	1,600

Comment Matrix

**(Comments/Responses to
June 2007 Revised Draft SEIS)**

	Comment	Response
FEDERAL	US Department of Interior: 08/20/07	
Loxahatchee NWR-1	In the revised modeling analysis, the Corps assumed no L-8 flows delivered to the greater Everglades (i.e. LNRW) via STA-1E. This is contrary to the actual operation of the system by which L-8 water is indeed sent to STA-1E and then the Refuge, and thus, it needs to be recognized that this is not a realistic scenario. L-8 water delivered to the refuge should be included in the modeling simulations for this EIS. This assumption translates into two potential outcomes: (1) It incorrectly results in overall simulation of how much water is directed to the WCAs versus other outlets in the larger S. Fla. water management system because it does not correctly simulate STA operations; (2) the effects of this modeling assumption are that the potential water quality loads to the STA-1 complex are greater, and thus, the potential of untreated water is increased.	Based on discussions between the SFWMD and Corps, SFWMM modeling conducted for the 2007 LORSS SEIS is determined to be consistent with actual operations, to the extent possible in the model. As documented in Appendix E, the No Action Alternative and all LORSS alternatives operate consistent with actual operations to route local basin runoff (C-51 basin) to STA-1E, while passing Lake Okeechobee releases (made to the L-8 canal) and L-8 local basin runoff to tide via S-155A, S-155, S-140, and S-141. STA-1E is not designed to treat L-8 local basin runoff or Lake Okeechobee discharges (associated with higher nutrient load). STA-1E is designed to operate in parallel with STA-1W to reduce the total phosphorus in runoff from both the C-51 West and S-5A basins prior to their discharge into Water Conservation Area 1. The SFWMM modeling tracks the volumes of Lake Okeechobee regulatory releases and L-8 local basin runoff, for routing to tide through S-155A. Under actual operations, STA-1E inflow structure S-319 pulls from the downstream C-51W canal; water in the C-51W canal will, at times, include a mixture of water from C-51 west basin runoff, L-8 basin runoff, and Lake Okeechobee regulatory releases until completion of L-8 project. Similar to STA-3/4, STA-1E treatment capacity is an operational constraint under actual operations. Appendix E refers the reader to the SFWMD documentation for a complete review of the current SFWMM version 5.5, which was completed in November 2005: http://www.sfwmd.gov/org/pld/hsm/models/sfwmm . Chapter 2 of the SFWMM version 5.5 documentation includes a complete description of the sources of topography used by SFWMD in version 5.5 of the SFWMM. For WCA-1, the source is noted to be a 1990 report from Richardson, et al., titled "An Evaluation of Refuge Habitats and Relationships to Water Quality, Quantity, and Hydroperiod." SFWMM version 5.5 was selected by the LORSS Project Delivery Team for LORSS modeling in January 2006.
LNWR-2	It remains unclear to the reader what modeling topography was used for the Refuge. The 400m HAED topo recently completed for the Refuge should have been used for the simulations.	In Appendix E, the "Simulation Results: 2007 LORSS SEIS" chapter includes discussion of WCA-1 performance trends. Average annual flows across Transect T1 show no net change from the No Action Alternative for all alternatives. All alternatives show a slight increase in stage (less than 0.10 feet) in the average to wet portion of the stage duration curve (10-40 percent). For the 2007 LORSS SEIS evaluation of alternative plans, all alternatives are relatively compared to the No Action Alternative. Compared to the No Action
LNWR-3	Previous refuge comments from pages Appendix C-44 through C-45 on the lack of modeling resolution still apply to this EIS, namely, "The Service is uncertain why the current modeling does not show obvious impacts to the Refuge, when the empirical evidence from past droughts would suggest that the impacts on the Refuge may be more significant than the modeling predict."	

		Alternative, none of the alternatives indicate a significant reduction in WCA-1 stage levels during dry conditions.
J.N. Ding Darling NWR-1	We support a clear concise definition of a “pulse event” as evidenced by the recent action in water releases in planned deviations in 2006. We do not support the definition as defined by the Corps and SFWMD as witnessed in 2005.	<p>The pulse release attempts to simulate a natural rainstorm event within the basins. The receiving body would respond to the pulse in a similar fashion as if a rainstorm had occurred in the upstream watershed. The level of pulse release selected at a particular juncture of the will depend on a number of factors including, but not limited to: (1) the ecological status of the lake’s littoral zone, (2) the ecological status of the downstream estuaries, (3) the current tributary hydrologic conditions, (4) the seasonal and multi-seasonal climate based hydrologic outlooks, and (5) water levels in the WCAs. The benefits of pulse releases can be best realized if desired lake water level targets are identified for future months and hydrologic position analysis is applied for determining the likelihood of being within a particular range of these target levels. Recognizing climate shifts and associated hydrologic events is a crucial part of position analysis. The level of pulse should be selected to best follow the future targets while limiting the risk of impacting the major objectives for managing the lake water levels.</p> <p>The pulse releases in 2005 and 2006 were consistent with the water control plan which allows for temporary deviations..</p>
JNDDNWR-2	Remove all references to non-typical operations, make up releases and similar events from the Plan.	<p>Non-typical operations are not contained in the operational guidance. Your recommendation to remove make up releases and similar events are acknowledged by the Corps. Please refer to Appendix A for clarification and additional language.</p> <p>Refer to Appendix A.</p>
DOI Ecological Services-1	The Draft EIS proposes the concept of “make-up” discharges from the lake. The rationale and necessity for this type of release has not been adequately justified.	<p>The following was added to “Make-up Release Description” in the Operational Guidance.</p> <p>Historically, the planned Lake Okeechobee releases to tide (estuaries) have been subject to reduction or prevention by downstream conditions such as downstream local basin runoff, the tidal cycle, tidal storm surge, and spawning in the estuaries. Similarly, planned Lake Okeechobee releases to the WCAs have also been limited by high water levels in the WCAs, STA treatment capacity limits, and limited or no conveyance capacity in the primary canals within the Everglades Agricultural Area. When these conditions have occurred in the past, the releases have been delayed or discontinued to prevent adverse effects downstream from Lake Okeechobee. To address this issue, proposed operational guidance includes conducting releases from Lake Okeechobee to tide and/or to the WCAs (via STAs) to make up releases that were previously reduced or prevented. These make-up releases from Lake Okeechobee to tide (estuaries) and WCAs will occur as soon as possible and may occur when Parts C and D (Appendix A Figures 6 and 7) do not allow releases or prescribe a lower volume</p>

		<p>release. The lake make-up releases to tide (estuaries) would be limited to a pulse release from Lake Okeechobee not to exceed 2800 cfs measured at S-79, and 2000 cfs at the St. Lucie Estuary when the lake level is below the Intermediate Sub-Band. This 2000 cfs at the St Lucie Estuary includes releases from all C&SF Project structures that discharge into the St Lucie Estuary.</p> <p>If an evaluation leads to implementation of a make up release, the make up release volume will be equal to or less than the volume of water that was reduced or prevented. The make up releases would essentially allow the ability to postpone Lake Okeechobee releases. The make up release may or may not be implemented, conditions will be monitored to determine the need to implement.</p> <p>It is the desire of the Corps to have a periodic (to be determined, perhaps every other week, initially) phone conference calls with scientists from various state, local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide input to the Corps Water Management Section.</p>
DOI ES-2	<p>Reference make-up releases... The last sentence in Section 3.4, p. 80 states "the environmental effects of this action are similar to those modeled, and would be no greater than those effects already discussed in Section 6 of this SEIS. What is the basis for this statement?"</p>	<p>The same volume of water would be released through make-up releases. As described in Section 3.4 (Make-up Release Description), the lake make-up releases to estuaries would be limited to a pulse release from the lake not to exceed 2800 cfs measured at S-79 and 2000 cfs at the St. Lucie Estuary when the band lake level is below the Intermediate Sub-Band. The EIS analysis considered environmental effects for the Intermediate Sub-Band zone, based on the modeling results.</p>
DOI ES-3	<p>Section 3.5, p. 81. The decision making process includes the ability to adjust the band and sub-band limits of the regulation schedule. This appears to be a mechanism that allows water managers to modify the approved schedule, and make releases based on factors outside of the modeled, decision making process.</p>	<p>The model was used to evaluate the alternatives and does not account for transitioning releases that could increase benefits to competing project purposes.</p>
DOI ES-4	<p>Section 3.5, p. 81. What is the basis for this statement, "The environmental effects of utilizing forecasts to gradually increase or decrease Lake O releases are similar to those effects discussed in Section 6, which are based on modeling simulations."</p>	<p>The Corps would be operating within the bands of the new schedule as described in Section 3. When utilizing forecasts, the Corps would still be operating within the bands, as modeled. Therefore, the model simulation data used for analyzing the environmental effects of the new schedule would not be different if/when utilizing forecasts.</p>
DOI ES-5	<p>Section 4.4.5, p. 94. The reason for selecting 17.25 ft. NGVD as the flood protection PM elevation has not been explained. This section explains the need, but does not explain why 17.25 was selected.</p>	<p>Section 4.3.5 includes a discussion of the reason 17.25 was selected.</p>
DOI ES-6	<p>Section 4.5 pp. 95-99. Regarding use of state lands as storage sites for excess water...separate</p>	<p>Storage of lake water on public/private lands is not a federal action. However, the Corps strongly supports this initiative, and included language in the SEIS</p>

	environmental evaluations should be conducted for each property that take into account their water storage capacity, time of releases, water quality, E&T species issues, and fish and wildlife habitat.	describing our coordination efforts with the SFWMD on this subject (Section 4.5.1 and Appendix H, Pertinent Correspondence). Since this is not a Federal action, it has not been considered in the alternative analysis and effects evaluation as required by NEPA. The Corps has included in the FSEIS the latest information available on this topic.
DOI ES-7	Section 5.31, pp. 115-117. Corps states in EIS that “during the 2001 drought, Lake O had a record low stage of 9.2 ft., at which time much of the shoal area became dry”. It would be more accurate to say that at such low stages, all the littoral zone of the lake is dry.	The statement was referenced from Havens, et. al., 2005.
DOI ES-8	Section 5.31, pp. 115-117. This section only briefly suggests that extreme high lake stages are also detrimental to the snail kite; we think the discussion should provide more emphasis that these events are also harmful to snail kite habitat in both the short term and long term.	The Corps, in consultation with the FWS, has acknowledged the detrimental effects of high lake stages to the snail kite. This was presented to the FWS in the Corps’ Biological Assessment, and it is documented in the Biological Opinion which is included in Appendix C.
DOI ES-9	Section 5.3.2, pp. 117-118. For future reference in your EIS and Biological Assessments, on June 28, 2007, the Secretary of the DOI removed the bald eagle from designation as threatened or endangered under the ESA. However, it is still protected under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act.	The Corps acknowledges the federal delisting of the bald eagle from the endangered and threatened species status. The FEIS has been updated to reflect the changed status of this species.
DOI ES-10	Section 6.33, pp. 144-145. The FWS does not consider the manatee population to be food-limited at present, so we disagree with your statement that, “...an increase in the vegetative community on which the manatee feeds” should be a factor in your determination.	The Corps acknowledges the FWS’s opinion on this topic as presented in the Biological Opinion dated October 2007.
DOI ES-11	Section 6.4.4, pp. 150-152. This section deals with simulations of potential effects on the WCAs. Figure 6-5 on page 152 suggest that Alternatives A and B may be slightly better than both the no action alternative and the preferred alternative (Alt E) for habitat suitability for the snail kite in the WCAs. However, the FWSs forthcoming biological opinion, we find that such a small difference in the simulation may not be significant within the sensitivity of the model; we found differences to be negligible, which support a conclusion of no significant adverse effects on the snail kite outside of Lake O.	The Corps agrees with your statement. The FEIS, Section 6.2, has been updated to more accurately display the effects of the alternatives, which reinforces that there is negligible differences.

	National Marine Fisheries Service	
Protected Resources Division	ESA Sect. 7 Concurrence Letter dated September 11, 2007	
Habitat Conservation Division	EFH - No objection Letter dated 7/24/07	
	US Environmental Protection Agency (08/16/07)	
EPA 1	Response 2 (Water Quality) Section 5.9 on water quality conditions should be further improved in the Final SEIS (FSEIS). Specifically, it should address Lake Total Maximum Daily Loads (TMDLs) and water quality conditions in the St Lucie Estuary and the Caloosahatchee River. The current description is not representative.	Section 5.9 has been revised to capture latest information on TMDL in Lake Okeechobee. Revisions have also been completed for water quality conditions in the St. Lucie Estuary and Caloosahatchee River.
EPA 2	Response 12 (Caloosahatchee River Reach) The Caloosahatchee River upstream of the S-79 structure (salinity control structure) is a valuable natural resource. It should be further described in the Affected Environment chapter of the FSEIS.	Existing conditions for the Caloosahatchee River upstream of the S-79 have been expanded in sections 5.2.3 and 5.4.2.
EPA 3	Response 13 (St. Lucie Estuary) The water quality portion of the Affected Environment chapter for the St Lucie Basin (river & estuary) should be upgraded in the FSEIS. Such information was documented, for example, in the COE's Indian River South (IRL-South) EIS.	The water quality portion of the existing conditions section has been expanded to include additional information for the St. Lucie basin. Reference section 5.9.
TRIBAL GOVERNMENT	Seminole Tribe of Florida (Lewis, Longman and Walker, P.A. representing) 8/20/07	
STOF 1	The STOF's 1992 agreement between the SFWMD and the STOF states that when Lake Istokpoga can no longer release water, but while canals are still at or near optimum levels, the SFWMD will deliver the STOF 15% of the available water in the canals. It is likely this cannot be achieved without modifications to the G-207 and G-208 pumping facilities. Has there been any analysis on whether or not this can be achieved with the proposed schedule by the SFWMD?	For the Brighton Reservation, various options of securing both short and long-term water supply deliveries to agricultural operations in the Southern Indian Prairie Basin continue to be evaluated and implemented where possible. For example, the SFWMD is currently funding development of an aquifer storage and recovery (ASR) well on the Brighton Reservation as a possible alternative water supply source. However, the proposed ASR well will not be operational until after 2010. Other water source and conveyance options, including, deviations to the Lake Istokpoga schedule to provide for additional water supply and modifications to the C-40 canal to augment the pump station G-208 capability, continue to be explored. For the Big Cypress Reservation, SFWMD has installed forward pumps to deliver water from the Lake at lower stages to the Miami Canal. Also, real-time operational decisions made during a declared drought event are made while fully cognizant of the Tribe's water rights.
STOF 2	Appendix D, D-30: Table 3-1, "Recommendations of the Draft Lower East Coast Water Supply Master Plan (LECWSP) should be updated to those	Concur. This item will be located in the LECWSP and updated in the final SEIS or removed if not available

COMMENTS RECEIVED ON THE JUNE 2007 REVISED DRAFT SEIS

	recommendations contained in the 2006 Update to the LECWSP, not the 2000 version.	
STOF 3	Will the 2006 LOWSM be finalized prior to adoption of the proposed TSP or not?	Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
STOF 4	Section 6.19, pp 170-171: The STOF recognizes the additional discussion contained within this SEIS relative to Native Americans. "Discussions" between the SFWMD and the STOF are ongoing in terms of mitigation measures such as the short-term and long-term measures to supply surface water to the STOF, consistent with the Water Rights Compact, but the SEIS contains no mention of the specifics of those contemplated infrastructure improvements. While those discussions are ongoing in a separate forum, it is difficult to ascertain what the effect will be on STOF from the lower schedule. The STOF remains concerned about the impacts of this schedule on the deliveries consistent with the Water Rights Compact.	See response to STOF 1. The SFWMM operations for the water supply delivery to the Seminole Reservations, including assumed structures and operational triggers, were not modeled in the LORSS simulations. Potential mitigation measures were not modeled in this study as what, if any, measures to be implemented by SFWMD, pursuant to its agreements with the Tribe, have not been decided upon at this time. Modifications to the existing configuration were therefore not able to be included in the LORSS simulations for the No Action Alternative base condition or other LORSS alternatives.
STOF 5	Appendix E, p. E-15: While the STOF recognizes the incorporation of the pump operations at S-8 to provide additional water supply deliveries to the Big Cypress Seminole Indian Reservation, any additional assumptions such as these should be incorporated into the modeling. For instance, these considerations are also applicable to the G-404 structure.	<p>As noted in section 6.19, the SFWMM operations for the water supply delivery to the Seminole Reservations, including assumed structures and operational triggers, were not modified for the LORSS simulations. It is recognized that modifications or improvements to the water supply delivery network may be necessary to continue to provide water supply deliveries per the Water Rights Compact agreement with the State of Florida and SFWMD. Modifications to improve existing canal conveyance, addition of new pump structures, and modified structure operations are not easily accomplished within the SFWMM; therefore, modifications to the existing configuration were not included in the LORSS simulations for the No Action Alternative base condition or other LORSS alternatives.</p> <p>Incorporation of the pump operations at S-8 represent an improved representation of the 2007 LORS base condition that was included in the updated modeling of the base condition and all alternatives for the 2007 LORS draft SEIS report. Operational and/or structural modifications to the water supply delivery network, if needed to continue to provide water supply deliveries per the Water Rights Compact Agreement under the proposed regulation schedule, were not identified or adequately defined for inclusion in LORSS regional modeling efforts. The Corps will coordinate with the SFWMD to provide additional documentation of required operational and/or structural modifications to the water supply delivery network within the final LORSS SEIS report.</p>

STOF 6	Update timelines. The SEIS should reflect the reality that a permanent schedule by 2010 may not be achievable. See also “proposed operational guidance”, p A-7.	LORS is intended to be an interim schedule. Refer to language located in the Executive Summary at the beginning of the FSEIS.
STOF 7	The Corps and the SFWMD should use every effort to finalize the LOWSM plan, model its effects in the context of the TSP and incorporate those results into the Final SEIS.	Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
STOF 8	Section 2.5, p 21: This section should be updated based upon the fact that the temporary forward pumps were operated this year and the SFWMD is no longer “proposing” these structures.	A revision to Section 2.5 was completed to reflect current information of the forward pumps.
STOF 9	<p>Section 3.4, p. 80: The section on “make-up releases” needs to be expanded. These operations are unclear and vague and therefore, the true impact to water supply is unknown. See also, p. A-12.</p> <p>This section concludes with a discussion on public notification of these operations. The STOF’s concern is that all interested parties should be involved in implementing these procedures before they are “noticed” of the decision.</p>	<p>Refer to Appendix A.</p> <p>The following was added to “Make-up Release Description” in the Operational Guidance.</p> <p>Historically, the planned Lake Okeechobee releases to tide (estuaries) have been subject to reduction or prevention by downstream conditions such as downstream local basin runoff, the tidal cycle, tidal storm surge, and spawning in the estuaries. Similarly, planned Lake Okeechobee releases to the WCAs have also been limited by high water levels in the WCAs, STA treatment capacity limits, and limited or no conveyance capacity in the primary canals within the Everglades Agricultural Area. When these conditions have occurred in the past, the releases have been delayed or discontinued to prevent adverse effects downstream from Lake Okeechobee. To address this issue, proposed operational guidance includes conducting releases from Lake Okeechobee to tide and/or to the WCAs (via STAs) to make up releases that were previously reduced or prevented. These make-up releases from Lake Okeechobee to tide (estuaries) and WCAs will occur as soon as possible and may occur when Parts C and D (Appendix A Figures 6 and 7) do not allow releases or prescribe a lower volume release. The lake make-up releases to tide (estuaries) would be limited to a pulse release from Lake Okeechobee not to exceed 2800 cfs measured at S-79, and 2000 cfs at the St. Lucie Estuary when the lake level is below the Intermediate Sub-Band. This 2000 cfs at the St Lucie Estuary includes releases from all C&SF Project structures that discharge into the St Lucie Estuary.</p> <p>If an evaluation leads to implementation of a make up release, the make up release volume will be equal to or less than the volume of water that was reduced or prevented. The make up releases would essentially allow the ability to postpone Lake Okeechobee releases. The make up release may or may not be implemented, conditions will be monitored to determine the need to implement.</p> <p>It is the desire of the Corps to have a periodic (to be determined, perhaps every</p>

		other week, initially) phone conference calls with scientists from various state, local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide input to the Corps Water Management Section.
STOF 10	Reference "Operational Guidelines and Additional Operational Flexibility" This section concludes with a discussion on public notification of these operations. The STOF's concern is that all interested parties should be involved in implementing these procedures before they are "noticed" of the decision.	It is the desire of the Corps to have a periodic (to be determined, perhaps every other week, initially) phone conference calls with scientists from various state, local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide input to the Corps Water Management Section.
STOF 11	Section 4.3.2, p. 87: The STOF understands that hydrological model output assumes maximum practicable releases from Lake O within each decision tree band; with consideration of downstream operational constraints and that these maximum releases are not always implemented. Essentially, this paints a "worst case scenario". It would be helpful for this section to be expanded to describe how conservative the performance evaluations have been in the past to understand the conservative nature of this effect.	<p>As noted in Appendix E, the SFWMM produces daily output for a 36-year period of record: 1965-2000. To quantitatively compare alternatives, relative differences should be used for the evaluation, rather than focusing on absolute numerical values. Longer periods of record provide additional information for the evaluation by including a wider range of historical climatological conditions. Future conditions do not exactly mirror the historical conditions used for an evaluation of simulation results, and operational decisions have not exactly mirrored the model assumptions for all years and all conditions due to regulation schedule deviations and coordination to address stakeholder concerns; as such, it is not recommended to directly compare absolute numerical results from previous regional modeling efforts to conditions observed during successive implementation.</p> <p>The Corps of Engineer's goal is to maximize the time the Lake Elevation is between 12.5 ft-NGVD and 15.5 ft-NGVD, seasonally. In order to minimize the probability of managed lake stages exceeding 17.25 feet, each band's maximum release should be expected when Lake Okeechobee stages are in the upper bands (High and Intermediate) of the proposed regulation schedule. When Lake Okeechobee stages are in the lower bands of the proposed regulation schedule, releases may occur less than "maximum practicable," depending on conditions. The rationale for less than "maximum practicable" releases may include reducing the probability of entering Water Shortage Management Band (based on short-term and long-term climate forecast) or responding to ecological considerations in Lake Okeechobee or the coastal estuaries, as examples.</p>
STOF 12	Please provide an analysis of the impact of those lowered lake levels on the SFWMD's ability to meet their obligations to the 1992 Water Rights Compact Agreement between the SFWMD and the STOF. Specifically, please provide the percentage of demands not met pursuant to this criterion.	<p>The Corps has modeled effects on the Tribe's work plan allocations to provide the best information available. Demands not met for the Big Cypress and Brighton Seminole Reservations for the alternatives analyzed are included in the SEIS Section 6.12.1 and 6.19. See responses to STOF 1 and STOF 4.</p> <p>The Corps is pursuing its NEPA analysis on the deviation requested by SFWMD to the Istokpoga regulation schedule to mitigate impacts to water supply. The Corps is also evaluating the possibility of routing water to the Tribe from the</p>

STOF 13	<p>Section 4.5, pp. 95-99: Clarify use of additional storage lands. Given the STOF's land ownership and Reservation holdings, water storage on these lands can directly impact the STOF's interests. The use and operations of these lands could create a benefit or impact to water supply and right now, that is unclear. Remaining questions persist, for instance:</p> <ul style="list-style-type: none"> •What lands (and how much) have been identified/committed for this storage? •Where are these lands located? •How much infrastructure and/or expense is necessary to make these lands available for storage? •How soon can the storage be brought on line as modeled? •Is the SFWMD going to use 150,000 acre-feet of storage, 450,000 acre-feet of storage or somewhere in between? •Do these lands now have an associated water use and is there an estimated deficit or expansion of this quantity when storage is implemented in the future? 	<p>Kissimmee basin and stands ready to work with SFWMD on appropriate modifications to G-207 and G-207.</p> <p>Storage of lake water on public/private lands is not a federal action. However, the Corps strongly supports this initiative, and included language in the SEIS describing our coordination efforts with the SFWMD on this subject (Section 4.5.1 and Appendix H, Pertinent Correspondence).</p> <p>As noted in section 4.5.1 of the LORSS SEIS, the SFWMM simulation of the 2007 LORSS SEIS preferred alternative does not assume availability of the proposed SFWMD lands for water storage. To provide a quantification of the potential estuarine benefits that could be realized from utilization of the SFWMD lands for water storage, an analysis was completed using the mean monthly flows from the SFWMM simulation of the 2007 LORSS Preferred Alternative. The assumptions and results from this analysis are documented in section 4.5.1.</p>
Micc 1	<p>Miccosukee Tribe of Indians (Lehtinen Vargas & Riedi representing) 8/20/07</p> <p>The Tribe submitted extensive comments about the necessity to protect, and minimize impacts, on the Everglades but none were incorporated into the Revised Draft SEIS. See, Exhibit A..... Yet, there was not mention in the Revised Draft that the Tribe had expressed concerns..... The Tribe was especially disturbed that Section 6.19 on Native Americans in the Revised Draft SEIS failed to even mention the Miccosukee Tribe.</p>	<p>The Corps did receive and incorporate the Miccosukee Tribe comments (letter dated October 16, 2006) into the Revised Draft SEIS dated June 2007. In particular, the referenced letter was included in Appendix H with substantive comments from the letter included in the comment/response matrix also included in Appendix H. In addition, the Miccosukee Tribe comments received (by letter dated 8/20/07) regarding comments on the Revised DSEIS have been incorporated into the final SEIS. Section 6.19 has been updated in the final SEIS to include discussion of the Miccosukee Tribe and the effects of the Preferred Alternative.</p>
Micc 2	<p>....The Corps failed to analyze the impacts to the Snail Kite habitat in WCA 3A. Instead the Revised Draft SEIS claims, without analysis, that the impact to tree islands will be "minor." ...</p>	<p>A comparison of snail kite habitat suitability was completed for all alternatives (See EIS section 6.4.4). Since publication of the draft SEIS, the Corps has received a Biological Opinion on the Preferred Alternative which discusses the effects to the snail kite in the WCAs. The Corps and the USFWS has determined that the effects on snail kites and their habitat in the WCAs would be negligible.</p>
Micc 3	<p>The Water Quality Analysis is Non-Existent in the Draft SEIS ....The document contains absolutely no analysis of the amounts of phosphorous in the increased water that will be going to the estuaries and</p>	<p>STA 3/4 is the only stormwater treatment area designed to capture and treat regulatory releases from Lake Okeechobee. In recognition that the total phosphorus (TP) concentrations occurring in Lake Okeechobee are presently higher than assumed during the design of STA 3/4, the average annual treatment</p>

	the Everglades as a result of lowering the Lake approximately one foot. Although it states there is a constraint on the volume of water that can go through STA 3/4, nowhere does the document estimate the phosphorus (concentration or load) entering, and leaving, this STA as a result of implementation of the Preferred Alternative E. The Revised Draft does not, and the Final SEIS must, specifically identify the load and concentration of phosphorus and other pollutants expected to be released to various destinations under any revised Lake Okeechobee regulation schedule. This would include any additional release of water containing phosphorus and other pollutants into the Water Conservation Areas.	capacity is lower. For the LORS study, the treatment capacity was assumed to be approximately 64,000 acre-feet for all alternatives, including the preferred alternative. Implementation of any of the alternatives analyzed would not affect, to any measurable degree, loads incoming or loads outgoing from the lake. The current P loads going to STA ¾ under the No Action Alternative are not anticipated to change if the preferred alternative is implemented. The phosphorous (P) load to the WCAs and the estuaries would not change if the preferred alternative is implemented.
Micc 4	The Revised Draft fails to analyze the impact of the Lake releases on the Settlement Agreement requirements in Case No 88-1886-Civ-Moreno in terms of phosphorus concentrations and load. Nor does it analyze the water quality impact of bypass around STA 3/4 into WAC 3A, which the document contemplates will occur. SEIS at E-30. Nor does it address whether Alternative E, which will increase droughts and decrease the water supply, will result in more backpumping into Lake Okeechobee....	<p>Operational rules for STA 3/4 bypass are not included in the SFWMM modeling evaluated for the proposed regulation schedule. Because the No Action alternative and all alternatives (A through E) are subject to an STA 3/4 treatment capacity (approximately 64,000 acre-feet average annual) for Lake Okeechobee regulatory releases, the change in schedule will not impact compliance with the Consent Decree in US v. SFWMD.</p> <p>Water supply backpumping to Lake Okeechobee is not included in the SFWMM modeling of the LORSS alternatives or No Action alternative; there is no increase in water supply backpumping to Lake Okeechobee under the SFWMM simulation of Alternative E, compared to the No Action alternative. Flood control backpumping to Lake Okeechobee from the EAA is included for the No Action alternative and all alternatives, with no operational changes; the total volume of flood control backpumping to Lake Okeechobee from S-2 and S-3 does not show any significant difference (very slight reduction) under the SFWMM simulation of Alternative E, compared to the No Action alternative.</p>
Micc 5	The Revised Draft SEIS Fails to Contain a Biological Opinion.... The Revised Draft SEIS continues to fail to contain a biological opinion by the Fish and Wildlife Service that analyzes, among other things, the combined impact that IOP and the Preferred Alternative will have on the endangered Snail Kite and its critical habitat in WCA 3A....	<p>A comparison of snail kite habitat suitability was completed for all alternatives (See EIS section 6.4.4). Additionally, the Corps has received a Biological Opinion on the Preferred Alternative which discusses the effects to the snail kite in the WCAs. The Corps and the USFWS have determined that the effects on snail kites and their habitat in the WCAs would be negligible.</p> <p>IOP is separate from the LORSS. Separate coordination with the USFWS has, and will, continue to occur under IOP.</p>
Micc 6	In light of the public health and safety concerns about the Herbert Hoover Dike, and the concerns about the alarming decline in the Snail Kite and its critical	<p>The Corps has fully coordinated with the USFWS regarding the effects to the snail kite and its critical habitat. A Biological Opinion is included as Appendix C. The Corps and the USFWS have determined that the effects on snail kites</p>

	<p>habitat in WCA 3A, the Corps should have reevaluated closing the S-12 gates but did not.....the Corps continues to refuse to reinstate consultation with FWS on the LORS to discuss whether the S-12 gate closings should be discontinued in light of the drastic decline in the Snail Kite and its critical habitat, and the public safety issues involved with the integrity of the Herbert Hoover Dike.</p>	<p>and their habitat in the WCAs would be negligible.</p>
Micc 7	<p>The Preferred Alternative E is a recommendation to a federal agency that was screened and developed in closed door meetings of an advisory group that did not comply with FACA. A review of the Revised Draft SEIS shows that the group relied on information, including modeling results, that are not in the document itself. While the Revised Draft now contains some analysis of modeling results for the Water Conservation Areas in Appendix E, it does not contain modeling for Snail Kite Indicator Region 19.....</p>	<p>The Corps held regular meetings with representatives of Federal, state, local and Tribal governments for purposes of exchanging information regarding Lake Okeechobee operations. The meetings were open to the public. These meetings were not established as and did not function as advisory committees subject to the Federal Advisory Committee Act. Refer to Section 6.19 for coordination/consultation description with the tribe.</p> <p>An enormous amount of output is generated from each SFWMM simulation and post-processed performance measures and indicators. The general performance of each alternative evaluated for the 2007 LORSS SEIS are reviewed and discussed, including selected graphics, in the EIS main document and Appendix E. The volume of output precludes inclusion of all model data in the SEIS report. The complete set of SFWMM simulation and performance measure output for all alternatives evaluated by the project delivery team under this study are available for review on the USACE web page for LORS Modeling, at the following web address: http://hprm.sfsteststore.org/loweb/sfwmm/.</p> <p>The current version of the SFWMM (version 5.0) provides standard output for the Indicator Regions illustrated in Figure 4-1 in the LORSS FEIS. The old Indicator Region 19 utilized for CERP Restudy modeling is no longer an ecological Indicator Region recognized by RECOVER. The current standard output for the SFWMM no longer includes output for the old Indicator Region 19. As noted in section 4.3.3 of the LORSS FEIS, the Indicator Regions used for snail kite evaluation were 101, 112, 115, 117, 118, and 119. Current Indicator Region 119 includes 6 SFWMM grid cells, including 4 of the 6 SFWMM grid cells that represented the old Indicator Region 19.</p>
Micc 8	<p>The Corps failed to conduct meaningful, pre-decisional consultation with the Tribe on the modeling changes in the Revised Draft SEIS, as required by its Trust Responsibility. Instead, the Corps has used an advisory committee to develop and recommend Alternative E...</p>	<p>The Corps held regular meetings with representatives of Federal, state, local and Tribal governments for purposes of exchanging information regarding Lake Okeechobee operations. The meetings were open to the public. These meetings were not established as and did not function as advisory committees subject to the Federal Advisory Committee Act. The Corps has requested the tribe to engage in consultation and requested face to face meetings during the LORS study (refer to Section 6.19 and Appendix H for coordination/consultation</p>

	<p>While the Corps claims increase in WCA 3A will be minor (on increase of 5 weeks), the Tribe has no way of assessing the accuracy of the results that were conducted with a new model. The use of the new model appears to have dramatically lowered (at least on paper) the number of weeks of sustained high water for all the alternatives, including the No Action Alternative. The question is how did the new model results decrease the number of weeks of water over 2.5 feet that the Corps predicted under IOP? This modeling discrepancy is not explained. Additionally, the selection of the Preferred Alternative E by an advisory committee that did not hold public meetings does not comply with FACA or the Corps' Trust Responsibility to the Tribe.</p>	<p>description with the tribe). During a face to face consultation meeting between the Tribe and the Corps on September 25 in Miami, the Corps was prepared to discuss the LORS preferred alternative, but LORS did not make the discussion.</p> <p>SFWMM v5.5 was used for the LORSS. Complete documentation is available on the SFWMD webpage for the SFWMM: http://www.sfwmd.gov/org/pld/hsm/models/sfwmm/ (SFWMD, 2005). During the formulation process and prior to the start of the new round of modeling for the 2007 LORSS SEIS, the USACE conducted a detailed review of the assumptions and data sets included in the original modeling. The inclusion of updated assumptions and data sets required use of a updated version of the SFWMM. Documentation of updated assumptions and data sets used for the new round of modeling are provided in Appendix E, pages E-14 through E-17. The purpose of the updated assumptions, updated data sets, and updated SFWMM version was to improve the model representation of existing and proposed regional operations, including the correction of errors identified following the review of the 2006 LORSS SEIS modeling results.</p> <p>The 2006 LORSS SEIS simulations are not directly comparable to the new round of modeling due to updated model assumptions, more current data sets, and different source code versions. Concur with the comment that the 2007 LORSS SEIS SFWMM simulations show a reduction in the number of weeks of high water conditions in WCA-3A, compared to the 2006 LORSS SEIS simulations. This observed effect is the result of the updated assumptions, as described in section 2.2 and Appendix E of the 2007 LORSS FEIS: L-8 regulatory releases from Lake Okeechobee and L-8 local basin runoff are routed to tide (through S-155A) and will not be routed through STA-1E; STA-1E is not designed to treat L-8 local basin runoff or Lake Okeechobee discharges (associated with higher nutrient load); previous LORSS base condition and alternative modeling assumed treatment of L-8 local basin runoff and Lake Okeechobee discharges by STA-1E, resulting in additional volumes of water being passed through STA-1E, WCA-1, WCA-2, and into WCA-3A.</p> <p>The LORSS No Action alternative (2007LORS) is representative of system operations expected to be in place if no action is taken through the LORSS process, including the existing water management structures plus those expected to be in place prior to implementation of a new LORSS schedule; as documented in Appendix E of the 2007 LORSS SEIS (pg. E-29), the No Action alternative includes IOP operations for WCA-3A and South Dade.</p> <p>Relative comparison of LORSS alternatives to the No Action base condition within the 2007 LORSS SEIS provide a comparative reference point for the LORSS evaluations to conditions that would be expected to be observed under</p>
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		WSE and IOP operations during the 1965-2000 period of record. Previous SFWMM regional modeling was conducted for development of IOP with version 4.4 of the SFWMM; version 5.5 of the SFWMM includes updated regional features (e.g. Everglades Construction Project STAs), updated model topography, 5 years of additional period of record, and several stages of incremental model improvements. Direct comparison of regional modeling results across different model versions is not recommended.
Micc 9	According to the Revised Draft SEIS, the No Action Alternative is the WSE but with temporary forward pumps that will not even be in place and opened until late 2007. SEIS at 21. It is improper to use an alternative that does not exist in its present form as the No Action Alternative. The WSE currently in effect, which does not include these pumps, should be the No Action Alternative against which impacts are assessed.	The SFWMD completed installation of the temporary forward pumps in April of 2007 and the pumps were operational shortly thereafter. The EIS has been updated to accurately reflect this information. The forward pumps were included in the No Action Alternative because the Corps had reasonable assurance that the pumps would be operational in 2007. The No Action Alternative, which included the operation of the temporary forward pumps, provided a benchmark for comparison of the environmental effects of the various alternatives.
Micc 10	The Corps' Revised Draft SEIS at Section 6.19, while now listing some actions, still fails to contain an adequate cumulative impact analysis that reviews the combined impact of the past ten years of water management operations for the sparrow have had on WCA 3A and the human environment coupled with Alternative E. The Corps' non-responsive comment that ISOP and IOP are separate from the LORS is totally incorrect in the context of NEPA, which requires these past and present actions be part of the cumulative impact analysis.....NEPA requires the Corps to assess the cumulative impacts of IOP and the FWS Proposed rule coupled with Alternative E.	With respect to past actions, during the scoping process and subsequent planning analysis, the Corps determined what information regarding past actions would be useful and relevant to predicting cumulative effects of the proposed action. For a list of past, present and reasonably foreseeable actions refer to Section 6.21. Due to system constraints, in particular the assumed annual treatment capacity restriction of approximately 64,000 acre feet for STA3/4, the greater Everglades performance measures would demonstrate negligible effects from any alternative. By modifying the operations of Lake Okeechobee as outlined by the Preferred Alternative (Alternative E), there would be no direct impact to IOP. Furthermore, the effects of IOP would have no cumulative relationship to the effects of the proposed action.
Micc 11	There is Still No Health and Safety Analysis of High Water in WCA 3A..... While the Corps has expressed concerns about the integrity of the dike surrounding Lake Okeechobee and high water conditions, it has not expressed any concern whatsoever, nor analyzed, the impact that high water in WCA 3A could have on the members of the Miccosukee Tribe who live in the area of the levee....	Modeling results indicate that there would be no meaningful stage increase in WCA 3A from implementation of any of the alternatives analyzed in the LORSS. As a result, the Preferred Alternative is not expected to increase water levels in WCA 3A or result in adverse effects to the region where the Miccosukee Tribe live.
Micc 12	The modeling posted on the Corps website for the TSP in the previous Draft SEIS showed 47 more weeks of sustained high water in WCA over IOP.	The current version of the SFWMM (version 5.0) provides standard output for the Indicator Regions illustrated in Figure 4-1 in the LORSS FEIS. The old Indicator Regions 14 and 19 utilized for CERP Restudy modeling are no longer

	<p>See, Exhibit A, Attachment B. The new results, which were conducted with an entirely new model that does not allow the Tribe to compare previous results with the current results, now shows 7 weeks above 2.5 feet for Alternative E. There is still no hydrograph for WCA 3A that compares the number of high water weeks in indicator Regions 14 and 19 under IOP with that under Alternative E. It is vital that the increased number of weeks of sustained high water in these indicator regions in WCA 3A, and the impacts on the Snail Kite and its critical habitat there, are divulged. The Final SEIS should contain model comparisons between IOP, the No Action Alternative, Alternative E and NSM, so that the Tribe can comment on the differences.</p>	<p>an ecological Indicator Region recognized by RECOVER. The current standard output for the SFWMM no longer includes output for the old Restudy Indicator Regions 14 and 19. Complete SFWMM output for gage locations in WCA-3A and all Indicator Regions is available on the USACE web page for LORS Modeling, at the following web address: http://hpm.sfstore.org/lowweb/sfwmm/. Also, refer to sections 6.2.4 and 6.4.4 for more clarification.</p> <p>Appendix E seeks to include the sub-set of SFWMM output tables and performance measure graphics that were regularly utilized and referenced during the LORSS PDT evaluation of alternatives; appendix E includes stage duration curves for WCA-3A indicator regions 118, 123, and 124; high/low water depth criteria bar graphs are provided for Indicator Region 124. Although not officially requested during the inter-agency effort to document performance measure needs at the beginning of the LORSS study effort, hydrologic output for the WCA-3A Restudy Indicator Region 14 is provided in Appendix E (Figures C-60 and C-62); this performance measure was previously requested by the Tribe in support of evaluations for the CSOP project, and the performance measure output process was readily available for use with LORSS. Review of the provided high water depth criteria bar graphs provided for Indicator Regions 14 and 124 illustrate a 1 and 4 week reduction in high water conditions, respectively, when comparing Alternative E to the No Action Alternative.</p> <p>The LORSS No Action alternative is representative of system operations expected to be in place if no action is taken through the LORSS process, including the existing water management structures plus those expected to be in place prior to implementation of a new LORSS schedule; as documented in Appendix E of the 2007 LORSS SEIS (pg. E-29), the No Action alternative includes IOP operations for WCA-3A and South Dade. Relative comparison of LORSS alternatives to the No Action base condition within the 2007 LORSS SEIS provide a comparative reference point for the LORSS evaluations to conditions that would be expected to be observed under WSE and IOP operations during the 1965-2000 period of record.</p> <p>Previous SFWMM regional modeling was conducted for development of IOP with version 4.4 of the SFWMM; version 5.5 of the SFWMM includes updated regional features (e.g. Everglades Construction Project STAs), updated model topography, 5 years of additional period of record, and several stages of incremental model improvements. Direct comparison of regional modeling results across different model versions is not recommended.</p> <p>As noted in section 4.3.3 of the LORSS FEIS, the Indicator Regions used for snail kite evaluation were 101, 112, 115, 117, 118, and 119. Current Indicator</p>
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		<p>Region 119 includes 6 SFWMM grid cells, including 4 of the 6 SFWMM grid cells that represented the old Indicator Region 19. Evaluation of snail kite performance is provided in sections 4.3.1, 6.3.1, and 6.4.4 of the 2007 LORSS SEIS.</p> <p>The selected performance measure graphics included in Appendix E and the complete suite of performance measure graphics available on the USACE web page for LORSS Modeling include the comparison of the No Action Alternative (IOP operations are included), Alternative E, and NSM version 4.6.2.</p> <p>The Corps has consulted with the USFWS and a Biological Opinion on the LORSS was completed in October 2007. The Corps and the USFWS have determined that the effects on snail kites and their habitat in the WCAs would be negligible.</p>	<p>Region 119 includes 6 SFWMM grid cells, including 4 of the 6 SFWMM grid cells that represented the old Indicator Region 19. Evaluation of snail kite performance is provided in sections 4.3.1, 6.3.1, and 6.4.4 of the 2007 LORSS SEIS.</p> <p>The selected performance measure graphics included in Appendix E and the complete suite of performance measure graphics available on the USACE web page for LORSS Modeling include the comparison of the No Action Alternative (IOP operations are included), Alternative E, and NSM version 4.6.2.</p> <p>The Corps has consulted with the USFWS and a Biological Opinion on the LORSS was completed in October 2007. The Corps and the USFWS have determined that the effects on snail kites and their habitat in the WCAs would be negligible.</p>
Micc 13	<p>...the Corps must reinitiate consultation with the FWS to see whether the additional weeks of sustained high water caused by Alternative E will result in jeopardy to the Snail Kite and adverse modification to its critical habitat. The Corps has the duty to show that it will not violate the ESA. The Corps must ask FWS to initiate Section 7 consultation on the cumulative impacts that IOP and the Lake Okeechobee Preferred Alternative E will have on the Snail Kite and its critical habitat in WCA 3A, as well as other endangered species. The Corps must also conduct a review of whether the Alternative E will comply with the Incidental Take Statement on the Snail Kite contained in the IOP SEIS.</p>		
Micc 14	<p>The Revised Draft SEIS should conclusively state whether or not Alternative E will increase the risk of flooding in other parts of the system. The Corps' failure to address the flood control impacts on the Tribe, and Tribal Everglades, were addressed previously in these comments.</p>	<p>...The Revised Draft SEIS fails to contain any analysis whatsoever of whether water shortages and man-made droughts could increase the threat of undesirable backpumping into Lake Okeechobee. As stated previously, any increased threat of backpumping due to water shortages should be addressed in light of the recent federal court decision of Judge Altonaga in Case No: 02-80309-Altonaga/Turnoff, which found that the discharge of pollutants into the Lake form the S-2, S-3, and S-4 pumps requires a National System Eliminations System ("NPDES") permit under the Clean Water Act.</p>	<p>Please refer to discussion on Lower East Coast Stage Levels in Appendix E (page E-46). Stage duration curves for SFWMM grid cells in the urban and agricultural areas of the Lower East Coast are provided in Appendix E, Figures C-94 through C-111. No significant differences are noted compared to the No Action Alternative.</p>
Micc 15	<p>...The Revised Draft SEIS fails to contain any analysis whatsoever of whether water shortages and man-made droughts could increase the threat of undesirable backpumping into Lake Okeechobee. As stated previously, any increased threat of backpumping due to water shortages should be addressed in light of the recent federal court decision of Judge Altonaga in Case No: 02-80309-Altonaga/Turnoff, which found that the discharge of pollutants into the Lake form the S-2, S-3, and S-4 pumps requires a National System Eliminations System ("NPDES") permit under the Clean Water Act.</p>	<p>Water supply backpumping to Lake Okeechobee is not included in the SFWMM modeling of the LORSS alternatives or No Action alternative; there is no increase in water supply backpumping to Lake Okeechobee under the SFWMM simulation of Alternative E, compared to the No Action alternative. Flood control backpumping to Lake Okeechobee from the EAA is included for the No Action alternative and all alternatives, with no operational changes; the total volume of flood control backpumping to Lake Okeechobee from S-2 and S-3 does not show any significant difference (very slight reduction) under the SFWMM simulation of Alternative E, compared to the No Action alternative. Pending appeal of Case No: 02-80309, the SFWMD has applied for NPDES permits for S-2, S-3 and S-4. Water supply backpumping to Lake Okeechobee is not included in the SFWMM modeling of the LORSS alternatives or No Action alternative; there is no increase in water supply backpumping to Lake Okeechobee under the SFWMM</p>	

		simulation of Alternative E, compared to the No Action alternative. Flood control backpumping to Lake Okeechobee from the EAA is included for the No Action alternative and all alternatives, with no operational changes; the total volume of flood control backpumping to Lake Okeechobee from S-2 and S-3 does not show any significant difference (very slight reduction) under the SFWMM simulation of Alternative E, compared to the No Action alternative.
Micc 16	Revised Draft SEIS Fails to Conduct an Analysis of all Reasonable Alternatives....The Revised Draft SEIS continues to fail to analyzed reasonable alternatives that would protect the health and safety of the people living around the Hoover Dike with far less impact on the environment, the Tribe, and the endangered Snail Kite. The only alternatives analyzed in the Revised Draft SEIS continue to be variations of WSE.....	Reasonable alternatives selected for the LORSS are those alternatives that are technically implementable, and that achieves the Corps' defined study purpose and need. Alternatives analyzed for the LORSS did take into consideration public health and safety as it relates to the Herbert Hoover Dike (refer to Section 1.3 and 1.4 which outlines the study need and agency goals and objectives). Section 2, Formulation of Alternatives, describes in detail the alternatives that were studied, and discusses how the interdisciplinary team developed the alternative plans.
Micc 17	The Final SEIS should analyze the cost of the evacuation alternative and compare it with the cost (environmental and otherwise) of the other alternatives. This cost information should be provided under the full disclosure and cost benefit analysis requirements of NEPA.	For the LORSS a cost-benefit analysis was not prepared. NEPA does not require that a federal agency prepare a cost-benefit analysis as a part of an EIS. However, if a cost-benefit analysis is prepared, it must be included or incorporated by reference in the EIS to aid in evaluating the proposed action 40 C.F.R. 1502.23.
Micc 18	Section 6.22 of the Revised Draft SEIS incorrectly concludes that since there is no proposed construction, will be no irreversible and irretrievable commitment of resource. SEIS at 175. This statement is short-sighted and incorrect. An increase in the number of weeks of high water conditions in WCA 3A caused by the Alternative E would exacerbate the destruction of tree islands that would be irreversible and irretrievable.	Modeling results indicate that there would be no meaningful stage increase or decrease in WCA 3A from implementation of any of the alternatives analyzed in the LORSS. Based on this analysis, there would be no adverse effects to irreversible and irretrievable resources such as tree islands in the WCA 3A. Also, refer to response in Micc 12, and clarification of modeling results in Sections 6.2.4 and 6.4.4.
Micc 19	The Revised Draft SEIS Fails to Adequately Analyze Managed Recessions.....The Revised Draft SEIS contains an Appendix F, which is entitled: "Incorporation of Periodic Managed Recessions into the TSP." This section claims that even if the water in the Lake is kept at lower levels, there may still be circumstances that lead to a managed recession, "so incorporating its use in the EIS is important." SEIS at F-3,	While the Corps agrees that a periodic managed recession may be a necessary management action in the future, the likelihood of implementing this action under the interim regulation schedule would be minimal. Due to the fact that 2006-2007 proved to be a natural recession event for Lake Okeechobee, a full NEPA analysis for a managed recession was not conducted for this phase of the LORSS. If the need for a managed recession occurs under the interim schedule, an analysis similar to the one in Appendix F would be completed.
Micc 20	The Corps Must Comply with The Indian Trust Doctrine.....despite knowing the devastating impact that its water management actions are having on	Modeling results indicate that there would be no meaningful stage increase or decrease in WCA 3A from implementation of any of the alternatives analyzed in the LORSS. As a result, the Preferred Alternative is not expected to affect water

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	Tribal lands in WCA 3A, the Corps failed to conduct meaningful consultation on Alternative E prior to issuing the Revised Draft SEIS even knowing that the modeling showed an increase (in) the number of weeks of sustained high water in WCA 3A.....	levels in WCA 3A or result in adverse effects to tribal lands in WCA 3A. Also, refer to response in Micc 12 and Micc 18. Refer to Section 6.19 for the Corps' consultation efforts pertaining to the Tribe.
STATE	Clearinghouse Comments 8/20/07	
Florida Department of Environmental Protection - 1	Based on the information contained in the revised draft SEIS and the enclosed state agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP).....	The Corps has acknowledged your comment.
FDEP 2	We believe that lake regulation schedules should be coupled with day to day operational guidance guided by weather forecasts to reduce the conditions that result in tradeoffs between the ecological health of the lake, estuaries and the water conservation areas (WCAs).....	The regulation schedule provides guidance for day to day operations that best balances all competing project purposes using weather forecasts and other tools. Refer to Appendix A.
FDEP 3	We also believe that inclusion of a managed recession protocol as mentioned in Section 4, page 99 to offset the prolonged high water levels which occurred for 13 months in 2004-2005 should be included with the revised LORS.....Including the documentation for a managed recession now, even with the on-going natural recession and interim nature of the LORS, provides the Corps with the opportunity to make managed releases without having to delay to prepare additional reports.	Due to the interim nature of the new schedule, and the fact that Lake Okeechobee has experienced a natural recession in 2006 and 2007, a full NEPA analysis for a managed recession was not conducted under this phase of the LORS. If the need for a managed recession occurs under the new schedule, an analysis similar to the one in Appendix F would be completed.
FDEP 4	....To further reduce the frequency of high volume release, other opportunities to store more water in the Kissimmee River Basin over the next three years should be evaluated including the water storage benefits of the Kissimmee River Restoration Project and the development of a new regulation schedule for the Kissimmee Chain of Lakes.....	The Corps is working closely with the SFWMD for storage of lake water on public/private lands. Refer to Section 4.5.1 for further detail.
Florida Department of Agriculture and Consumer Services - 1	In June 2007, the USACE presented a "compromise" to attempt to avoid the reformulation requested by the SFWMD Governing Board. The compromise was that (1) the new schedule would include a sunset clause that re-instates the WSE schedule (or one with equivalent storage if it had been officially adopted by that time) once the Corps has finished the Phase one improvements for reaches 1,2, and 3 of the Herbert	Refer to the Executive Summary at the beginning of the FSEIS that describes the interim nature of the schedule. Also, refer to MFL discussion in Section 4.5, and Table 6-1 for MFL performance (low stage <11 ft. For >80 days).

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	Hoover Dike (HHD); (2) South Florida Water Management District (SFWMD) will amend their written Water Shortage Plan (WSP) to lower the trigger line and formalize the methodology used this year in the Lake Okeechobee Service Area; and (3) SFWMD would address the Lake Okeechobee minimum flow and level (MFL) issues in some manner in recognition that they may experience very low lake levels during this interim period. amended their WSP so it remains unlikely the offsets to agricultural water supply shortages related to low lake levels can be implemented as expected. Issues with the proposed amended WSP being inconsistent with SFWMD's Minimum Flow and Level rules were raised by environmental interests at the public workshops..... Agricultural operations need some certainty in order to remain in business. The certainty provided by the proposed lake regulation schedule is that the Lake Okeechobee Service Area has a much greater chance of being in situations similar to the current water shortage condition more frequently and for longer periods of time.... Given the severity of the projected impacts to agricultural water supply which the proposed lake regulation schedule, the Department strongly recommends that the USACE not implement the recommended schedule but instead use deviations to the current one (WSE) until the repairs to reaches 1,2, and 3 of the dike are completed.....	
FDACS 2	.....amended their WSP so it remains unlikely the offsets to agricultural water supply shortages related to low lake levels can be implemented as expected. Issues with the proposed amended WSP being inconsistent with SFWMD's Minimum Flow and Level rules were raised by environmental interests at the public workshops..... Agricultural operations need some certainty in order to remain in business. The certainty provided by the proposed lake regulation schedule is that the Lake Okeechobee Service Area has a much greater chance of being in situations similar to the current water shortage condition more frequently and for longer periods of time.... Given the severity of the projected impacts to agricultural water supply which the proposed lake regulation schedule, the Department strongly recommends that the USACE not implement the recommended schedule but instead use deviations to the current one (WSE) until the repairs to reaches 1,2, and 3 of the dike are completed.....	The Corps acknowledges your comment. The Corps of Engineer's goal is to maximize the time the Lake Elevation is between 12.5 ft-NGVD and 15.5 ft-NGVD, seasonally. In order to minimize the probability of managed lake stages exceeding 17.25 feet, each band's maximum release should be expected when Lake Okeechobee stages are in the upper bands (High and Intermediate) of the proposed regulation schedule. When Lake Okeechobee stages are in the lower bands of the proposed regulation schedule, releases may occur less than "maximum practicable," depending on conditions. The rationale for less than "maximum practicable" releases may include reducing the probability of entering Water Shortage Management Band (based on short-term and long-term climate forecast) or responding to ecological considerations in Lake Okeechobee or the coastal estuaries, as examples.
SFWMD 1	South Florida Water Management District (8/20/07) The current Draft SEIS must explicitly state the Preferred Alternative lowers the working water supply storage capability of the Lake and less water will be available to meet demands during the dry season.....Therefore, the Preferred Alternative under the federal project authority alone increases the severity and frequency of lower Lake stages regardless of the District's selected Water Shortage Management Plan selected.	The EIS analysis does indicate that the preferred alternative has more low events below 11 ft. Reference Section 6.2.1 and Table 6-1 for analysis.
SFWMD 2	...the USACE, must recognize in the Draft SEIS that the District's role in installing and operating these	Refer to the Executive Summary at the beginning of this FSEIS.

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	temporary forward pumps is, in part, carried out under the authority granted it, as the local sponsor of the C&SF project pursuant to the Preferred Alternative.	
SFWMD 3	...This revised draft should replace the August Draft 2006 Water Shortage Management Plan (LOWSM) contained in the Draft SEIS. The combination of the Preferred Alternative and the 2006 LOWSM plan has been found to be incompatible with the Lake Okeechobee MFL rule, and therefore the August 2006 LOWSM plan will not be the plan implemented by the District...	Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
SFWMD 4	The Draft SEIS states, in summary, that following rehabilitation of the HDD in Reaches 1,2, and 3, the Corps will operate under a new CERP Band 1 regulation schedule (System-wide Schedule) or a new schedule providing storage equivalent to the existing WSE regulation schedule.....If this is not acceptable, please notify the District immediately.	Refer the Executive Summary at the beginning of this FSEIS.
SFWMD 5	The District recognized the public safety concerns associated with LORS implementation; however, once these issues are addressed, immediate implementation of an alternative schedule is necessary to address prolonged low Lake levels and the associated impacts on the Lake's ecology and water supply.	Refer to the Executive Summary at the beginning of this FSEIS.
SFWMD 6	....Makeup releases are problematic to define. To assure all stakeholders that the USACE will not be causing adverse impacts beyond those analyzed in the SEIS, the specific conditions and computation need to be more clearly stated. Examples with numbers would help.	Refer to Appendix A. The following was added to "Make-up Release Description" in the Operational Guidance. Historically, the planned Lake Okeechobee releases to tide (estuaries) have been subject to reduction or prevention by downstream conditions such as downstream local basin runoff, the tidal cycle, tidal storm surge, and spawning in the estuaries. Similarly, planned Lake Okeechobee releases to the WCAs have also been limited by high water levels in the WCAs, STA treatment capacity limits, and limited or no conveyance capacity in the primary canals within the Everglades Agricultural Area. When these conditions have occurred in the past, the releases have been delayed or discontinued to prevent adverse effects downstream from Lake Okeechobee. To address this issue, proposed operational guidance includes conducting releases from Lake Okeechobee to tide and/or to the WCAs (via STAs) to make up releases that were previously reduced or prevented. These make-up releases from Lake Okeechobee to tide (estuaries) and WCAs will occur as soon as possible and may occur when Parts C and D

		<p>(Appendix A Figures 6 and 7) do not allow releases or prescribe a lower volume release. The lake make-up releases to tide (estuaries) would be limited to a pulse release from Lake Okeechobee not to exceed 2800 cfs measured at S-79, and 2000 cfs at the St. Lucie Estuary when the lake level is below the Intermediate Sub-Band. This 2000 cfs at the St Lucie Estuary includes releases from all C&SF Project structures that discharge into the St Lucie Estuary.</p> <p>If an evaluation leads to implementation of a make up release, the make up release volume will be equal to or less than the volume of water that was reduced or prevented. The make up releases would essentially allow the ability to postpone Lake Okeechobee releases. The make up release may or may not be implemented, conditions will be monitored to determine the need to implement.</p> <p>It is the desire of the Corps to have a periodic (to be determined, perhaps every other week, initially) phone conference calls with scientists from various state, local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide input to the Corps Water Management Section.</p>
SFWMD 7	<p>...Operational Guidance needs to include language addressing the use of C-10A and the L-8 and C-51 canals for conveying excess Lake water to tide. This operation has traditionally followed the estuary release decisions and is briefly addressed in the current water control plan. However, the operation should be more clearly stated within the new release guidance.</p>	<p>Operational guidance remains unchanged from existing operational guidance. Additional clarifying language will be included in the Water Control Plan.</p>
SFWMD 8	<p>The Draft SEIS still does not address the fact that due to the prolonged lower Lake stages caused by the proposed regulation schedule, there is an increased risk of failure to, and/or limited capability to operate, the northern gated spillway structures that discharge into Lake Okeechobee. These structures include S-17, S-72, S-84, S-65E, etc. The lower Lake stages will limit the ability of these structures to hold normal headwater stages without exceeding the design head across the structure. The SEIS needs to address this issue because the proposed action could decrease the water supply and flood control capability of these structures.</p>	<p>This concern has and is being analyzed as a result of the ongoing 2006 to 2007+ drought which created a record low under the existing regulation schedule. The drought and effects on structure limitations is not a resultant of the regulation schedule but a result of natural occurrences. Additional operation guidance will be provided for these structures as appropriate.</p>

SFWMD 9	....The results of the DMSTA modeling efforts were forwarded to the USACE; however, the summary was not incorporated into the Draft SEIS. The District recommends inclusion of this information as an appendix to the SEIS.	DMSTA modeling of the 2007 LORSS SEIS alternatives, including Alternative E, as presented in the revised DSEIS were not provided to the USACE by the SFWMD. The only DMSTA modeling results provided to the Corps (dated July 26, 2006) were based on the alternatives analyzed in the August 2006 draft SEIS. Due to updated modeling information and improvements to the 2006 TSP, three new alternatives were developed and subsequently analyzed in the June 2007 revised draft SEIS.
COUNTIES/CITIES	Glades County Board of County Commissioners (8/15/07)	
	General statements received and noted.	
	Lee County Board of County Commissioners (8/20/07)	
Lee 1	This revised SEIS should reflect updated timelines to accurately account for this "interim" schedule as well as the development of the "permanent" schedule to be completed under phase 3.	Refer to the Executive Summary at the beginning of this FSEIS
Lee 2	The Corps and SFWMD should use every effort to finalize the LOWSM plan, model its effects in the context of the TSP, and incorporate those results into the FSEIS.	Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
Lee 3	Section 2.5, p. 21. This section should be updated based upon the fact that the temporary forward pumps have been constructed and the SFWMD is no longer "proposing" these structures.	Section 2.5 has been updated to include the most recent information on the temporary forward pumps.
Lee 4	Section 3.4, p. 80, also p. A-12. This section on "make-up" releases needs to be expanded to include the environmental considerations before the release is made.	Refer to Appendix A. All releases decisions will include environmental considerations. The following was added to "Make-up Release Description" in the Operational Guidance. Historically, the planned Lake Okeechobee releases to tide (estuaries) have been subject to reduction or prevention by downstream conditions such as downstream local basin runoff, the tidal cycle, tidal storm surge, and spawning in the estuaries. Similarly, planned Lake Okeechobee releases to the WCAs have also been limited by high water levels in the WCAs, STA treatment capacity limits, and limited or no conveyance capacity in the primary canals within the Everglades Agricultural Area. When these conditions have occurred in the past, the releases have been delayed or discontinued to prevent adverse effects downstream from Lake Okeechobee. To address this issue, proposed operational guidance includes conducting releases from Lake Okeechobee to tide and/or to the WCAs (via STAs) to make up releases that were previously reduced or prevented. These make-up releases from Lake Okeechobee to tide (estuaries) and

		<p>WCAs will occur as soon as possible and may occur when Parts C and D (Appendix A Figures 6 and 7) do not allow releases or prescribe a lower volume release. The lake make-up releases to tide (estuaries) would be limited to a pulse release from Lake Okeechobee not to exceed 2800 cfs measured at S-79, and 2000 cfs at the St. Lucie Estuary when the lake level is below the Intermediate Sub-Band. This 2000 cfs at the St Lucie Estuary includes releases from all C&SF Project structures that discharge into the St Lucie Estuary.</p> <p>If an evaluation leads to implementation of a make up release, the make up release volume will be equal to or less than the volume of water that was reduced or prevented. The make up releases would essentially allow the ability to postpone Lake Okeechobee releases. The make up release may or may not be implemented, conditions will be monitored to determine the need to implement.</p> <p>It is the desire of the Corps to have a periodic (to be determined, perhaps every other week, initially) phone conference calls with scientists from various state, local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide input to the Corps Water Management Section.</p>
Lee 5	<p>The County believes that the limitation to 2,800 cfs, when the lake is below the Intermediate Sub-band, should be expanded to specifically include consideration of the season and estuary conditions before “make-up releases” are made.</p>	<p>All releases in all bands will consider but not limited to the season and estuary conditions, including make-up releases. Refer to Appendix A.</p>
Lee 6	<p>Section 3.6, p. 81 and Appendix E, p E-46-47. The modeling shows the number of months with average discharge to the Caloosahatchee greater than 2,800 cfs is reduced from 25 to 22 months, but there is an increase by 2 months of flows greater than 4,500 cfs. Please explain whether or not this increase in high discharge events is likely influenced by the unusual hurricane activity in years 2000-2005.</p>	<p>To provide additional information for the expected performance of the recommended plan (Alternative E or T3) for the 2001 through 2005 POR, LOOPS simulations were conducted by the SFWMD during December of 2005 for the No Action Alternative and Alternative E. For informational purposes, a brief summary of the hydrologic output is provided in Appendix E.</p> <p>The net three-month reduction in LOOPS simulated mean monthly flows greater than 2800 cfs is the result of simulated differences during the following months: August 2001 (No Action: 3042 cfs; Alternative E/T3: 2325 cfs), August 2002 (No Action: 3789 cfs; Alternative E/T3: 2732 cfs), March 2003 (No Action: 2803 cfs; Alternative E/T3: 2367 cfs), February 2004 (No Action: 3112 cfs; Alternative E/T3: 2177 cfs), and December 2005 (No Action: 2574 cfs; Alternative E/T3: 4650 cfs).</p> <p>The net two-month increase in LOOPS simulated mean monthly flows greater than 4500 cfs is the result of simulated differences during the following months: October 2003 (No Action: 3185 cfs; Alternative E/T3: 4846 cfs) and December 2005 (No Action: 2574 cfs; Alternative E/T3: 4650 cfs).</p>

Lee 7	Reference "additional operational flexibility" section. The County's primary comment is that all interested parties should be involved in implementing these procedures before they are "noticed" of the decision. Additionally we believe that the Corps should prepare additional NEPA documentation at the time it makes the decisions, to ensure intelligent decision making.	<p>It is the desire of the Corps to have a periodic (to be determined, perhaps every other week, initially) phone conference calls with scientists from various state, local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide to the Corps Water Management Section.</p> <p>The environmental effects would be evaluated on the basis of existing conditions in the ecosystems, as quantified by the performance measures described in Section 4 of the SEIS. If the Corps determines that a federal action related to LORS has not been taken into consideration through the NEPA analysis, then additional analysis may be necessary.</p>
Lee 8	Section 4.3.2, p. 87. It is the County's understanding that the hydrological model output assumes maximum practicable releases from Lake O within each decision tree band, with consideration of downstream operational constraints and that this maximum releases are not always implemented. Essentially, this paints a "worst case scenario." This section should be expanded to describe how conservative the performance evaluations will be due to this effect.	<p>As noted in Appendix E, the SFWMM produces daily output for a 36-year period of record: 1965-2000. To quantitatively compare alternatives, relative differences should be used for the evaluation, rather than focusing on absolute numerical values. Longer periods of record provide additional information for the evaluation by including a wider range of historical climatological conditions. Future conditions do not exactly mirror the historical conditions used for an evaluation of simulation results, and operational decisions have not exactly mirrored the model assumptions for all years and all conditions due to regulation schedule deviations and coordination to address stakeholder concerns; as such, it is not recommended to directly compare absolute numerical results from previous regional modeling efforts to conditions observed during successive implementation.</p> <p>The Corps of Engineer's goal is to maximize the time the Lake Elevation is between 12.5 ft-NGVD and 15.5 ft-NGVD, seasonally. In order to minimize the probability of managed lake stages exceeding 17.25 feet, each band's maximum release should be expected when Lake Okeechobee stages are in the upper bands (High and Intermediate) of the proposed regulation schedule. When Lake Okeechobee stages are in the lower bands of the proposed regulation schedule, releases may occur less than "maximum practicable," depending on conditions. The rationale for less than "maximum practicable" releases may include reducing the probability of entering Water Shortage Management Band (based on short-term and long-term climate forecast) or responding to ecological considerations in Lake Okeechobee or the coastal estuaries, as examples.</p>
Lee 9	Any additional changes in the water shortage rules or triggers (or revisions to 2006 LOWSM) must be considered in the FSEIS. See also, Section 5.8.	Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
Lee 10	Additional Storage Areas: We do not believe that these should be just state actions, because they are designed to address the problems caused by the Corps' management of the Lake. The Corps should	The Corps has been working with the SFWMD to address additional storage areas for consideration. Please see series of correspondence letters between the SFWMD and the Corps in Appendix H.

Lee 11	work with the SFWMD to address this decision process and clearly articulate what the benefits will be before the FSEIS. The SEIS still fails to sufficiently analyze key issues regarding the additional state lands for storage. •What lands have been identified/committed for this storage? •How much infrastructure and/or expense is necessary to make these lands available for storage? •How soon can the storage be brought on line as modeled? •Is the SFWMD planning for 150,000 acre-feet of storage, 450,000 acre-feet of storage, or something in between?	Storage of lake water on public/private lands is not a federal action. However, the Corps strongly supports this initiative, and included language in the SEIS describing our coordination efforts with the SFWMD on this subject (Section 4.5.1 and Appendix H, Pertinent Correspondence). The Corps has included in the FSEIS the latest information available on this topic.
Lee 12	Section 5.9, pp 131-133. This section primarily focuses on the impacts from nutrient loading to the Caloosahatchee Estuary and the allocation of that loading between the Lake O, river and estuary basins. The discussion of nutrient loads does not analyze the effects of those loads on ecological factors or evaluate the different alternatives' effects on nutrient loading.	Section 5.9 describes the existing water quality in the Caloosahatchee River Basin. A water quality analysis is beyond the scope of this study. Implementation of any alternative analyzed would have negligible effects to water quality. The same quantity and quality of water would be delivered to the estuary; the timing of those releases that would be different with each alternative. The existing nutrient loads would not change if any one of the alternatives were implemented. The Corps does not regulate the amount of nutrient loading into the Caloosahatchee River/Estuary.
Lee 13	The revised draft SEIS still does not adequately analyze the water quality effects of the different alternatives. Only salinity is considered.	Please refer to response above, Lee 12. The Corps used the "salinity envelope" as a performance measure because operationally, the Corps is responsible for regulatory releases from S-79 that would affect salinity in the Estuary.
Lee 14	Section 6.21, pp 174-175. This section should be expanded to include a discussion of the projects and initiatives the SFWMD will be undertaking after the passage of the Northern Everglades and Estuary Protection Act (NEEPA). The section should also include more detail on the potential for changes to the 2006 LOWSM, the SFWMDs Drought Management Policy, and any Lake O MFL changes or any other rule changes that may effect WSTs or drought management.	The Technical Plan for the Northern Everglades and Estuary Protection Program is still under development at this time. Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G. Also, refer to MFL discussion in Section 4.5, and Table 6-1 for MFL performance (low stage <11 ft. For >80 days).
Lee 15	Appendix E, p. E-36. During the POR, the cumulative volume of regulatory releases from Lake O to the Caloosahatchee Estuary at S-77 increases from 13.63 million acre-feet (No Action) to 14.96 million acre-feet for the TSP. The cumulative volume of releases at S-79 (including C-43 Basin Runoff) increases from 37.33 million acre-feet (No	The increase in the cumulative volume of regulatory releases from Lake Okeechobee at S-77 and at S-79 is due to the combined effects of the proposed operational modifications included in the TSP plan, Alternative E (documented in Section 3 and Appendix A). A detailed break-down of the increase in average annual base flow deliveries and total flood control discharges from Lake Okeechobee to the Caloosahatchee River at S-77 is provided with the Lake Okeechobee discussion for "Simulation Results: 2007 LORSS SEIS" in

	Action) to 38.15 million acre-feet for the TSP. What is the rationale for these trends? Is it increasing the pulses and base flows or is it due to other factors?	Appendix E.
PBC 1	Palm Beach County – Director of Utilities (8/20/07) Palm Beach County recommends that the Corps re-examine the mitigation required to permanently change the regulation schedules for Lake Okeechobee and lower the lake levels. As currently proposed, this change would pose a serious public threat to the residents of the Glades cities or force already economically disadvantaged communities to suffer further economic harm due to the Corps’ proposed action. The RDSEIS needs to evaluate these impacts to the Glades cities and the disproportionate burden they would be asked to bear.	Reduction of risk to population is a primary concern of this project, and has been addressed as such. Updated impacts to regional water supply, both Municipal & Industrial and Agricultural, are addressed in this report (section 6.12 in the main report and Appendix D)
PBC 2	Clearly the impact of the Corps’ decision to lower lake levels on the Glades cities requires analysis as part of the draft RDSEIS. From our analysis of the RDSEIS, this does not appear to have been considered or evaluated by the Corps. RDSEIS Sections 4.3.4 and 6.12 regarding water supply fail to recognize that Lake O is used as a direct source of municipal water supplies. The Corps should consider the principals of “environmental justice” so as to not neglect the needs of the predominantly minority, economically disadvantaged cities on the shores of Lake O that rely on Lake O as their only source of drinking water. See section 6.26.23.	Section 6.20, Drinking Water Effects, has been updated to reflect your comments on Glades cities relying on Lake Okeechobee as a drinking water supply. Regional water supply, both municipal and agricultural, are addressed in sections 6.7 and appendix D. The model and coefficients used to analyze water supply and the related economic impacts do in fact take into account the lake as a direct source of water supply. Please refer to section 1.4.1 for a description of the regional model used to evaluate water supply in South Florida. Please refer to section 6.26.23, Environmental Justice.
PBC 3		
PBC 4	Section 6.7 addressing socio-economic impacts does not recognize that the Glades cities are minority communities that will disproportionately be impacted by the change in the regulation schedule.	The Corps did consider the principles of environmental justice. Please refer to section 6.26.23, Environmental Justice.
PBC 5	The Corps needs to evaluate the impacts on Glades cities’ water supplies as required by <i>Economic and Environmental Principles and Guidelines for Water and Related Resources Implementation Studies</i> , ACOE March 10, 1983.	Regional water supply is evaluated in accordance with the cited P&G. Please refer to Section 6.12 and Appendix D, which gives a regional impact analysis for water supply.
Sanibel 1	City of Sanibel (8/20/07) The RDSEIS should have incorporated the SFWMD’s additional water storage capabilities into the TSP and provided a mechanism for incorporating	Storage of lake water on public/private lands is not a federal action. However, the Corps strongly supports this initiative, and included language in the SEIS describing our coordination efforts with the SFWMD on this subject (Section

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	<p>additional storage into the schedule over the course of the next three years.....The City requests that the final Lake schedule operational guidelines expressly provide that excess Lake Okeechobee water will be stored on those and other available properties (as infrastructure allowing its containment, conveyance and release from each property becomes available, at least in part through the continuing efforts of the SFWMD) in preference to being released through the estuaries at rates that regional experts agree are not biologically sound.</p>	<p>4.5.1 and Appendix H, Pertinent Correspondence. The Corps has included in the FSEIS the latest information available on this topic.</p>
Sanibel 2	<p>The City objected to the 2006 DSEIS's proposal to allow make-up releases in instances when otherwise authorized releases are impeded by certain conditions. We ask that the Corps either eliminate this category of releases or expand it to include both releases to tide and those through the Everglades Agricultural Area ("EAA") to the WCAs.....The City therefore renews its request that make-up releases, which add additional and unnecessary direction to a Lake schedule that is already sufficiently flexible, be moved from the proposal.</p>	<p>Refer to Appendix A.</p> <p>The following was added to "Make-up Release Description" in the Operational Guidance.</p> <p>Historically, the planned Lake Okeechobee releases to tide (estuaries) have been subject to reduction or prevention by downstream conditions such as downstream local basin runoff, the tidal cycle, tidal storm surge, and spawning in the estuaries. Similarly, planned Lake Okeechobee releases to the WCAs have also been limited by high water levels in the WCAs, STA treatment capacity limits, and limited or no conveyance capacity in the primary canals within the Everglades Agricultural Area. When these conditions have occurred in the past, the releases have been delayed or discontinued to prevent adverse effects downstream from Lake Okeechobee. To address this issue, proposed operational guidance includes conducting releases from Lake Okeechobee to tide and/or to the WCAs (via STAs) to make up releases that were previously reduced or prevented. These make-up releases from Lake Okeechobee to tide (estuaries) and WCAs will occur as soon as possible and may occur when Parts C and D (Appendix A Figures 6 and 7) do not allow releases or prescribe a lower volume release. The lake make-up releases to tide (estuaries) would be limited to a pulse release from Lake Okeechobee not to exceed 2800 cfs measured at S-79, and 2000 cfs at the St. Lucie Estuary when the lake level is below the Intermediate Sub-Band. This 2000 cfs at the St Lucie Estuary includes releases from all C&SF Project structures that discharge into the St Lucie Estuary.</p> <p>If an evaluation leads to implementation of a make up release, the make up release volume will be equal to or less than the volume of water that was reduced or prevented. The make up releases would essentially allow the ability to postpone Lake Okeechobee releases. The make up release may or may not be implemented, conditions will be monitored to determine the need to implement.</p> <p>It is the desire of the Corps to have a periodic (to be determined, perhaps every other week, initially) phone conference calls with scientists from various state,</p>

Sanibel 3	<p>Neither the 2006 DSEIS nor the RDSEIS acknowledge the need to mitigate the harms that the Lake schedule will inflict on the Estuaries. The Corps' legal obligation is plain—Environmental Impact Statements must include a discussion of the 'means to mitigate adverse environmental impacts' 40 C.F.R. § 1502.16.,,,</p>	<p>local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide input to the Corps Water Management Section.</p> <p>One of the primary goals of the study was to reduce undesirable flows to the estuaries. Addressing HHD integrity issues was the other. So the Corps focused on alternative schedules designed to lower the normal operating limits of Lake Okeechobee. The study developed several alternatives, which initially resulted in the selection of Alternative 1bS2-m as the Preferred Alternative. Alternative 1bS2-m was supported in a draft SEIS. During the draft SEIS public review period, numerous public comments were received. The majority of the public comments centered on the need for improving Alternative 1bS2-m as it related to the Caloosahatchee Estuary performance. While the Preferred Alternative, 1bS2-m, did well in lowering lake operating limits, the public was concerned that the schedule did not adequately reduce the high freshwater releases to the Caloosahatchee Estuary on Florida's west coast.</p> <p>Based on consideration of public comments received, the Corps made a decision to complete additional alternative plan formulation and subsequent hydrologic simulation modeling in an attempt to improve the Caloosahatchee Estuary performance, while achieving other study objectives. Since additional formulation and modeling was done, which resulted in three new alternatives, it was necessary to revise the August 2006 draft SEIS, instead of finalizing the document. As such, this revised draft SEIS evaluates the new array of alternatives, and incorporates the responses to the many comments received on the August 2006 draft SEIS. LORS includes mitigation to the extent possible within this regulation schedule modification which does not incorporate structural modifications to the C&SF project. Future CERP projects, such as C-43 will further address releases to the Caloosahatchee estuary.</p> <p>The Corps acknowledges your comment. The next phase of the LORS study, referred to as the System Operation Manual (SOM), will review the entire C&SF system. The SOM is scheduled to begin in 2008.</p>
Sanibel 4	<p>Improving Upon the Impacts Analysis in the LORSS. The city remains hopeful that the Corps will take additional steps between now and the issuance of a ROD to improve upon the TSP and the RDSEIS, but understands that some of its suggestions may require more time than is available for incorporation into the current LORSS. The City asks, at a minimum, that the Corps commit to ensuring that future iterations of the LORSS are not similarly deficient. With this in mind, the City requests that the Corps undertake the following tasks over the course of the next three years, to ensure that when the time comes to evaluate a new Lake schedule in 2010, the Corps has all the data and modeling it requires in order to adequately assess the environmental impacts of that schedule on</p>	

	<p>the Caloosahatchee Estuary.</p> <ul style="list-style-type: none"> •Expand water quality modeling in the LORSS •Assess the impact of the current Lake schedule on the Caloosahatchee Estuary •Establish a present condition for comparison with projected responses to releases from Lake Okeechobee •Discover data gaps and missing information for the development of a comprehensive water quality monitoring plan..... •To accurately gauge the impacts of the Lake schedule on the Caloosahatchee Estuary, the Corps will need to apply models for salinity, sedimentation, nutrients, and eutrophication. 	<p>the Caloosahatchee Estuary.</p> <ul style="list-style-type: none"> •Expand water quality modeling in the LORSS •Assess the impact of the current Lake schedule on the Caloosahatchee Estuary •Establish a present condition for comparison with projected responses to releases from Lake Okeechobee •Discover data gaps and missing information for the development of a comprehensive water quality monitoring plan..... •To accurately gauge the impacts of the Lake schedule on the Caloosahatchee Estuary, the Corps will need to apply models for salinity, sedimentation, nutrients, and eutrophication. 	
Sanibel 5	<p>Expand Water Quality Monitoring in the Caloosahatchee River and Estuary....At a minimum the Corps can compile data on the current phosphorous, nitrogen, and salinity concentrations of the Estuary, the presence of harmful algal blooms, and the populations of indicator species to validate a baseline for comparison of alternatives. This data will serve two important purposes when the next Lake schedule is evaluated in 2010. First it will allow the Corps to provide a baseline assessment of the Estuary so that the potential impact of Lake schedules can be assessed. Second, it will allow the Corps to assess the performance of the current and future Lake schedule alternatives.</p>	<p>During this phase of the LORS study, the Corps did not conduct water quality monitoring in the Caloosahatchee River/estuary. The Corps, in coordination with estuarine specialists from the SFWMD, prepared the existing water quality conditions section for the Caloosahatchee River as the conditions pertained to the LORS. The Corps took the best information available to prepare the existing conditions section.</p>	
Sanibel 6	<p>The RDSEIS nowhere explains why the 150,000 acre-feet of storage that has already been identified by SFWMD has not been incorporated into the Lake schedule. Nor does the Corps account for why the additional 300,000 acre-feet that are not yet ready to be used for storage cannot be incorporated into the Lake schedule now, for use when they become available.</p>	<p>Refer to response above for Sanibel 1.</p>	
Sanibel 7	<p>The failure of the TSP and RDSEIS to incorporate available emergency water storage necessitates the establishment of a stakeholder group to oversee this process....The City....requests that the Corps use the framework of the existing Project Development Team ("PDT") to establish a stakeholder group to oversee</p>	<p>Refer to Appendix A. It is the desire of the Corps to have a periodic (to be determined, perhaps every other week, initially) phone conference calls with scientists from various state, local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide input to the Corps Water Management Section.</p>	

	progress in acquiring and utilizing additional emergency water storage capacity in the Lake schedule.....The City also requests that its own technical consultant, who has already undertaken a detailed assessment of the LORSS, be included in the stakeholder group.....	Refer also to response to comment Sanibel 6.
Sanibel 8	....The City has described a hydrodynamic model in Section II.A.1.a that has already been developed for the Caloosahatchee, which could easily be used to generate important data about potential impacts on regional water quality. The City again suggests that the Corps use this salinity modeling to support the RDSEIS' conclusions.	Explicit salinity modeling of the Caloosahatchee Estuary was not included in the LORSS study. Performance measures for estuarine salinity are based on flow volumes simulated with the SFWMM.
Sanibel 9	Rather than assessing existing conditions of the Estuary in a quantifiable manner, the Corps simply concludes that the Caloosahatchee watershed has seen much change over the past century due to an array of human-induced physiological alterations, which have affected its ecology. RDSEIS at 102, D-63. It also acknowledges that both excessive and insufficient salinity levels fall outside of the tolerance range of many estuarine organisms, but fails to quantify what this salinity range is. ID. At 87-88, D-63. In lieu of actual data, the Corps declares only that "flows between 450 cfs and 2800 cfs sustain an ecologically, appropriate range of salinity conditions in the estuary" and sets this range as a performance measure for elevation. ID. At 87-88. How do these broad conclusions explain the impacts of changing salinity levels on the estuaries or enable the Corps to assess the salinity impacts under the LORS alternatives in any meaningful way?	For the LORSS, estuarine scientists provided input to gauge estuary performance. Estuary performance measures were quantified in terms of occurrences and duration of critical inflows from the S-79. Please refer to Section 4.3.2 for details. CERP based performance measures were used for estuaries as indicated in Section 4.3. In depth documentation and rationale for these PHs is available through the RECOVER report at www.evergladesplan.org/pm/recover/eval_team_perf_measures.cfm .
Sanibel 10	RDSEIS at D-63....what is meant by "in general"? Does the decision apply to the Caloosahatchee and St. Lucie estuaries specifically, or just estuaries in general? Are there any studies or modeling results to support the Corps' conclusions as to how the estuaries react to regulatory releases in general, or is this mere supposition? Furthermore, if salinity in the estuaries only generally returns to the normal range, are there any known instances where this has not been the case? If so, what has happened in these	The term "in general" has been replaced with "typically" in this respect. This is referring to common characteristics, patterns or traits. Statements regarding salinity, and subsequent effects are qualified in the cited works referenced in preceding paragraphs on pages D- 62 and D-63.

Sanibel 11	typical instances? Second, the RDSEIS states that the ecosystems begin to recover when regulatory releases are terminated, but fails to discuss the consequences of frequent regulatory releases. RDSEISat D-63. What happens when an estuary's recovery is disrupted by repeated by repeated additional regulatory releases?	Statements regarding recovery times and ecological response are qualified in the cited works referenced in preceding paragraphs on pages D- 62 and D-63
Sanibel 12	Third, the Corps asserts in the RDSEIS that, upon termination of regulatory releases, displaced estuarine species return or are replaced, again without any support or explanation. Id. at D-63. Has the return or replacement of species in the Caloosahatchee Estuary been documented in the wake of a regulatory release? How long does this replacement or return take? Is there data to suggest that species populations return to normal? If so, what population levels does the Corps consider to be normal?	Statements regarding releases and species recovery times are qualified in the cited works referenced in preceding paragraphs on pages D- 62 and D-63
Sanibel 13	...the Corps continues to claim that the recovery period for the Estuary is commensurate with the rate and duration of the freshwater inputs. Id. This statement provides no detail to permit the City or any other interested party to understand anything about so called "recovery periods." That recovery time could be commensurate with the duration of flow seems a reasonable and logical proposition, but that is not what the RDSEIS asserts. Is there an accepted equation or model for calculating recovery period in an estuary based on duration and rate of input? If this equation exists, does it only account for salinity based recovery, or does it also account for recovery from high inputs of nitrogen and phosphorous, or low oxygen concentrations?	Statements regarding releases and species recovery times are qualified in the cited works referenced in preceding paragraphs on pages D- 62 and D-63. Methodology involved the ecological analysis in question can be found in the cited materials.
Sanibel 14	...why does the Corps not assess the environmental harm that sedimentation poses in both estuaries?	Sediment transport modeling of the Caloosahatchee Estuary was not included in the LORSS study. The LORSS only considered operational changes to the regulation schedule for Lake Okeechobee. A sedimentation assessment was not part of the LORSS.
Sanibel 15	...the RDSEIS notes that releases from Lake Okeechobee are only one of several sources that contribute nutrients to the Caloosahatchee. RDSEIS at D-74. How does the existence of other sources of estuarine nutrients impact the presence of sedimentation in the Estuary or obviate the need for	Many of the stressors referred to in the statement are not lake or regulation schedule related. Non-lake stressors were not studied (only qualitatively mentioned), and cannot be captured responsibly in this type of analysis, which targets effects of the lake and the associated regulation schedule.

Sanibel 16	quantified assessments of both of these stressors? The failure to assess and quantify the current conditions of the Caloosahatchee and St Lucie estuaries leaves the Corps without a baseline for evaluating the impacts of the proposed Lake schedule alternatives.....Instead of establishing this baseline, the RDSEIS relies on studies that compare the Caloosahatchee's nutrient concentrations, dissolved oxygen concentrations, turbidity, and total suspended solids to the levels of these respective stressors in other unidentified Florida estuaries to determine if the water quality of the Caloosahatchee is similar to those water bodies. ID. How do these comparisons contribute any baseline information about the Caloosahatchee or help the Corps analyze the impact of the LORS on the water quality of the Estuary? Likewise, how does the observation that releases from Lake Okeechobee contribute to the water quality problems of the Estuary but that they "are just a piece of the puzzle" provide information for evaluating the impacts of the Lake schedule on the affected environment?	Section 5.9 describes the existing water quality in the Caloosahatchee River Basin. A water quality analysis is beyond the scope of this regulation study. Implementation of any alternative analyzed would have negligible effects to water quality. The same quantity and quality of water would be delivered to the estuary. It is just the timing of those releases that would be different with each alternative. The existing nutrient loads would not change if any one of the alternatives were implemented. The Corps does not regulate the amount of nutrient loading into Lake Okeechobee or the Caloosahatchee River/Estuary.
Sanibel 17	....In the RDSEIS, the Corps takes the important first step of acknowledging that "there are many studies/projects identified for the central/southern portion of Florida, which may affect the study area in the future," but then fails to adequately assess how the Lake schedule will interact with these future projects or explain how this interaction will achieve the beneficial results promised. RDSEIS at 172. The RDSEIS also touches on some of the current related actions, such as the additional potential sources of pollutions in the Caloosahatchee, but only passing and not in the cumulative effects analysis itself.....Without any indication from the Corps as to how the schedule will interact with past, present, and reasonably foreseeable future actions, it is impossible for the City and other concerned parties to assess the merits of the proposed Lake schedule.	As described in Section 6.21, Cumulative Effects, there are many studies/projects identified for the central/southern portion of Florida, which may affect the study area. Many of these projects/actions are designed to provide measurable and meaningful improvements to water quality and water quantity in Lake Okeechobee, the St. Lucie Estuary, the Caloosahatchee Estuary, and the Everglades. Cumulatively, these projects/actions would reduce undesirable freshwater releases and provide a more natural salinity gradient within the estuaries.
Sanibel 18	CEQ then recommends that the agency describe the affected environment. As a part of this description,	Section 5, affected environment, does provide the baseline condition for the LORS study. Forming this baseline was important as it allowed the PDT to

	the agency should “define a baseline condition for the resources, ecosystems, and human communities.” As discussed previously in Section III.A.2, the Corps has failed to establish the baseline conditions in the Caloosahatchee Estuary.	compare alternatives and anticipate changes to the existing environment.
Sanibel 19	<p>In order for concerned parties such as the City to assess the risks the LORS poses to fish and wildlife in the Caloosahatchee Estuary, the Corps must at a minimum examine the following issues in detail:</p> <p>Have threatened and endangered species been impacted by the current WSE? And, if so, what about the WSE has caused the impact incurred? What about the Lake schedule can be changed to eliminate these impacts in the future? And, relatedly, how can the Lake be managed in a manner that will enhance protection of threatened and endangered species throughout the affected environment?</p>	<p>The Corps has received a Fish and Wildlife Coordination Act Report, and a Biological Opinion dated October 2007. Effects to fish and wildlife, including E&T species can be found in these documents located in Appendix C. Reasonable and Prudent Measures in the Biological Opinion have been outlined to assist the Corps in minimizing future impacts to E&T species.</p>
Sanibel 20	<p>The Corps simply acknowledges that flows over 2800 cfs and 4500 cfs have been known to adversely affect important seagrasses and other organisms in the Estuary and San Carlos Bay.....Too many fundamental questions remain:</p> <p>What are the organisms and seagrasses that are adversely affected by mean flows >2800 cfs.</p> <p>If flows of this magnitude adversely affect these organisms and seagrasses, do they also adversely affect the threatened and endangered species that prey upon these organisms and rely on the seagrasses for habitat and food?</p> <p>If flows of this magnitude adversely affect seagrasses and other organisms, what will flows of two and three times this magnitude (the flow levels contemplated under the proposed LORS) do to these organisms?</p> <p>How will the sharp increase in long duration flows >2800 cfs impact these seagrasses and organisms, not to mention the threatened and endangered species themselves?</p> <p>How will the seasonal times of these flows impact these organisms?</p>	<p>Refer to Sections 6.2.2, Estuarine Vegetation and Oysters, and Section 6.4.2, Fish and Wildlife Resources for discussion of effects to species of the Northern Estuaries. Additionally, the Affected Environment, Section 5, discusses the different species of flora and fauna that may be affected. In particular, Section 5.2 and 5.4 describe species in the estuaries.</p> <p>Also refer to response to Sanibel 9.</p>

Sanibel 21	Under the new policy of additional operational flexibility, the Corps gives itself room to "address circumstance (i.e., hydrologic conditions, lake levels, spawning in the estuaries, downstream runoff, etc) that were not evaluated in the Preferred Alternative for the POR." Id. This flexibility empowers the Corps to make unscheduled Lake releases that have not been analyzed for their potential environmental effects...	<p>The Corps of Engineer's goal is to maximize the time the Lake Elevation is between 12.5 ft-NGVD and 15.5 ft-NGVD, seasonally. In order to minimize the probability of managed lake stages exceeding 17.25 feet, each band's maximum release should be expected when Lake Okeechobee stages are in the upper bands (High and Intermediate) of the proposed regulation schedule. When Lake Okeechobee stages are in the lower bands of the proposed regulation schedule, releases may occur less than "maximum practicable," depending on conditions. The rationale for less than "maximum practicable" releases may include reducing the probability of entering Water Shortage Management Band (based on short-term and long-term climate forecast) or responding to ecological considerations in Lake Okeechobee or the coastal estuaries, as examples.</p> <p>Please refer to Section 3 Table 3-1.</p> <p>The same volume of water would be released through make-up releases. As described in Section 3.4 (Make-up Release Description), the lake make-up releases to estuaries would be limited to a pulse release from the lake not to exceed 2800 cfs measured at S-79 and 2000 cfs at the St. Lucie Estuary when the band lake level is below the Intermediate Sub-Band. The EIS analysis considered environmental effects for the Intermediate Sub-Band zone, based on the modeling results.</p>
Sanibel 22	Make-up Releases.....how can the Corps conclude that the environmental effects of this action are similar to those modeled, and would be no greater than those effects already discussed" for the modeled schedules?	<p>The Corps acknowledges your comment. Affects on the local economies, including The Caloosahatchee Estuary region, are addressed in Section 6.7 of the main report, as well as Appendix D. The impacts of each alternative are presented with the quantitative and qualitative effects on water supply, navigation, commercial fishing, recreation, and regional economic impacts. Additionally, aesthetics are addressed (6.8). Affects to the environment are addressed earlier in Section 6 of the main report and cannot directly be translated into quantifiable economic impacts without a certain degree of conjecture and speculation. . In the cases where a quantitative analysis was not performed, data to directly relate lake levels/releases to economic impacts was unavailable. Such is the case in the Caloosahatchee region, were secondary and often tertiary water sources complement demand for water</p>
Sanibel 23	The economics analysis in the RDSEIS again ignores the Caloosahatchee Estuary and its surrounding communities in favor of the Lake, the EAA, and the water needs of South Florida.....Appendix D provides detailed economic modeling of the Lake schedule's impacts on virtually every other region of the action area except the Caloosahatchee Estuary. See Draft SEIS, D-13-64. Because the revised Lake schedule continues to place the brunt of the burden on the Caloosahatchee Estuary, the Corps must fairly assess the extent of inevitable economic harms.	<p>The Corps acknowledges your comment. Affects on the local economies, including The Caloosahatchee Estuary region, are addressed in Section 6.7 of the main report, as well as Appendix D. The impacts of each alternative are presented with the quantitative and qualitative effects on water supply, navigation, commercial fishing, recreation, and regional economic impacts. Additionally, aesthetics are addressed (6.8). Affects to the environment are addressed earlier in Section 6 of the main report and cannot directly be translated into quantifiable economic impacts without a certain degree of conjecture and speculation. . In the cases where a quantitative analysis was not performed, data to directly relate lake levels/releases to economic impacts was unavailable. Such is the case in the Caloosahatchee region, were secondary and often tertiary water sources complement demand for water</p>
Ft. Lauderdale 1	City of Ft. Lauderdale (§17/07) Holding lake elevations lower requires infrastructure to supply water for people and the environment. The permanent infrastructure to do that must be identified and constructed. The City and other municipalities are working together to investigate the use of the L-8 reservoir as a facility that can be used to store water that otherwise would be lost to tide. Will a lower Lake schedule create an adverse impact on the ability	<p>The new schedule was based on operational changes with the current infrastructure in place. Also refer to the Executive Summary at the beginning of this EIS for discussion of the interim nature of this schedule.</p>

	of this project to capture and store excess water that can be put to a beneficial use?	
Ft. Lauderdale 2	...The end result is that this “interim” schedule may be in place longer than 2010. The revised SEIS should accurately account for timeframes for the development of the “permanent” schedule. ...It is clear from that discussion that the LOWSM and water shortage rules will be revisited and the effect on the TSP is unknown.	The FEIS describes in more detail the interim nature of the LORS. Please see the Executive Summary section at the beginning of the FEIS for details.
Ft. Lauderdale 3	...We recognize that these are State actions as well, but the Corps should work with the SFWMD to address this decision process and clearly articulate what the benefits will be before the Final SEIS. .....The SEIS should reflect updated timelines to accurately account for the “interim” schedule as well as the development of the “permanent” schedule to be completed under Phase 3.	Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
Ft. Lauderdale 4	...It is clear from the discussion that the LOWSM and water shortage rules will be revisited. The timing of these changes, and the scheduling of modeling those effects in conjunction with this TSP, is unclear form the SEIS... ...The Corps and SFWMD should use every effort to finalize the LOWSM plan, model its effects in the context of the TSP and incorporate those results into the Final SEIS.	The FEIS describes in more detail the interim nature of the LORS. Please see the Executive Summary at the beginning of the FEIS for those details.
Ft. Lauderdale 5	Section 2.5, Page 21: This section should be updated based upon the fact that the temporary forward pumps have been constructed and the SFWMD is no longer “proposing” these structures. The section should also describe the status of the permanent forward pumps	Refer to response above, Ft. Lauderdale 3.
Ft. Lauderdale 6	Section 3.4, page 80: The section on “Make-Up Releases” needs to be expanded.....	Refer to response above, Ft. Lauderdale 3.
Ft. Lauderdale 7		Section 2.5 has been updated.
Ft. Lauderdale 8		Refer to Appendix A. The following was added to “Make-up Release Description” in the Operational Guidance. Historically, the planned Lake Okeechobee releases to tide (estuaries) have been subject to reduction or prevention by downstream conditions such as downstream local basin runoff, the tidal cycle, tidal storm surge, and spawning in the estuaries. Similarly, planned Lake Okeechobee releases to the WCAs have also been limited by high water levels in the WCAs, STA treatment capacity limits, and limited or no conveyance capacity in the primary canals within the Everglades Agricultural Area. When these conditions have occurred in the past,

		<p>the releases have been delayed or discontinued to prevent adverse effects downstream from Lake Okeechobee. To address this issue, proposed operational guidance includes conducting releases from Lake Okeechobee to tide and/or to the WCAs (via STAs) to make up releases that were previously reduced or prevented. These make-up releases from Lake Okeechobee to tide (estuaries) and WCAs will occur as soon as possible and may occur when Parts C and D (Appendix A Figures 6 and 7) do not allow releases or prescribe a lower volume release. The lake make-up releases to tide (estuaries) would be limited to a pulse release from Lake Okeechobee not to exceed 2800 cfs measured at S-79, and 2000 cfs at the St. Lucie Estuary when the lake level is below the Intermediate Sub-Band. This 2000 cfs at the St Lucie Estuary includes releases from all C&SF Project structures that discharge into the St Lucie Estuary.</p> <p>If an evaluation leads to implementation of a make up release, the make up release volume will be equal to or less than the volume of water that was reduced or prevented. The make up releases would essentially allow the ability to postpone Lake Okeechobee releases. The make up release may or may not be implemented, conditions will be monitored to determine the need to implement.</p>
Ft. Lauderdale 9	<p>Section 3.6.....See also Section 4.2.....The section concludes with a discussion on public notification of these operations. The City's only comment is that all interested parties should be involved in implementing these procedures before they are "noticed" of the decision. Experience has shown with the previous TSP that public involvement in these types of decision can result in a better effect on the environment overall...</p>	<p>It is the desire of the Corps to have a periodic (to be determined, perhaps every other week, initially) phone conference calls with scientists from various state, local, and tribal stakeholders. The call is meant to provide stakeholders the opportunity to provide input to the Corps Water Management Section.</p>
Ft. Lauderdale 10	<p>Section 4.3.2, Page 87: It is the City's understanding that hydrological model output assumes maximum practicable releases from Lake Okeechobee within each decision tree band, with consideration of downstream operational constraints and that this maximum releases are not always implemented. Essentially, this paints a "worse case scenario". It would be helpful for this section to be expanded to describe how conservative the performance evaluations have been in the past to understand the conservative nature of this effect.</p>	<p>As noted in Appendix E, the SFWMM produces daily output for a 36-year period of record: 1965-2000. To quantitatively compare alternatives, relative differences should be used for the evaluation, rather than focusing on absolute numerical values. Longer periods of record provide additional information for the evaluation by including a wider range of historical climatological conditions. Future conditions do not exactly mirror the historical conditions used for an evaluation of simulation results, and operational decisions have not exactly mirrored the model assumptions for all years and all conditions due to regulation schedule deviations and coordination to address stakeholder concerns; as such, it is not recommended to directly compare absolute numerical results from previous regional modeling efforts to conditions observed during successive implementation.</p> <p>The Corps of Engineer's goal is to maximize the time the Lake Elevation is</p>

		<p>between 12.5 ft-NGVD and 15.5 ft-NGVD, seasonally. In order to minimize the probability of managed lake stages exceeding 17.25 feet, each band's maximum release should be expected when Lake Okeechobee stages are in the upper bands (High and Intermediate) of the proposed regulation schedule. When Lake Okeechobee stages are in the lower bands of the proposed regulation schedule, releases may occur less than "maximum practicable," depending on conditions. The rationale for less than "maximum practicable" releases may include reducing the probability of entering Water Shortage Management Band (based on short-term and long-term climate forecast) or responding to ecological considerations in Lake Okeechobee or the coastal estuaries, as examples.</p>	
Ft. Lauderdale 11	<p>... While many of the following questions should be answered by the SFWMD, it is important that these operations are more clearly articulated in this SEIS process so that stakeholders can formulate a better opinion as to the importance of this additional storage to success of this TSP ...</p> <ol style="list-style-type: none"> 1. What lands (and how much) have been identified/committed for this storage? 2. Where are these lands located? 3. How much infrastructure and/or expense is necessary to make these lands available for storage? 4. How soon can the storage be brought on line as modeled? 5. Is the SFWMD going to use 150,000 acre-feet of storage, 450,000 acre-feet of storage or somewhere in between? 	<p>Storage of lake water on public/private lands is not a federal action. However, the Corps strongly supports this initiative, and included language in the SEIS describing our coordination efforts with the SFWMD on this subject (Section 4.5.1 and Appendix H, Pertinent Correspondence. The Corps has included in the FSEIS the latest information available on this topic.</p>	
Ft. Lauderdale 12	<p>Appendix D, D-30: Table 3-1, "Recommendations of the Draft Lower East Coast water Supply Master Plan ("LECWSP") should be updated to those Recommendations contained in the 2006 Update to the LECWSP, not the 2000 version.</p>	<p>Concur. This item will be located in the LECWSP and updated in the final SEIS or removed if not available</p>	
Ft. Lauderdale 13	<p>... The SEIS states, : The final SFWMD efforts [to address modifications to same] are anticipated to be completed prior to implementation of any new regulatory schedule for Lake Okeechobee and the efforts will be able to consider the additional data provided form the 2007 LORSS SEIS Plan." The SEIS does not state that this will be publicly reviewed before the SEIS is finalized, please address any changes to 2006 LOWSM before the Final SEIS.</p>	<p>The Corps has provided the best available information regarding the SFWMD water shortage cutback rules in this FEIS. Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.</p>	

WATER DISTRICTS	Pelican Lake Water Control District (8/17/07)	The Corps acknowledges that water supply is one of the authorized purposes of the C&SF system. For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.
	South Shore Drainage District (8/17/07)	The Corps acknowledges that water supply is one of the authorized purposes of the C&SF system. For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.
	East Shore Water Control District (8/17/07)	The Corps acknowledges that water supply is one of the authorized purposes of the C&SF system. For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.
	Pahokee Water Control District (8/17/07)	The Corps acknowledges that water supply is one of the authorized purposes of the C&SF system. For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.
	South Florida Conservancy District (8/17/07)	The Corps acknowledges that water supply is one of the authorized purposes of the C&SF system. For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.
	East Beach Water Control District (8/17/07)	The Corps acknowledges that water supply is one of the authorized purposes of the C&SF system. For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.
	Clewiston Drainage District (8/17/07)	The Corps acknowledges that water supply is one of the authorized purposes of the C&SF system. For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.

Lake Worth Drainage District (8/16/07)		
LWDD 1	Section 2.5. Page 21:.... This section should also describe the status of the permanent forward pumps and what changes, benefits, impacts or differences may occur due to their use in the context of the TSP.... Will the permanent forward pumps rectify the problems that occur when the Lake is so low?	Refer to Section 2.5 for the update on installation and operations of the forward pumps.
LWDD 2	Section 3.4. Page 80: The section on "Make-Up Releases" needs to be expanded.... Will this water be released when it is needed for water supply deliveries? The use of Make-Up Releases" needs clarification because the assumptions for this operation do not exist in the SEIS. See also Page A-12.	<p>Refer to Appendix A.</p> <p>The following was added to "Make-up Release Description" in the Operational Guidance.</p> <p>Historically, the planned Lake Okeechobee releases to tide (estuaries) have been subject to reduction or prevention by downstream conditions such as downstream local basin runoff, the tidal cycle, tidal storm surge, and spawning in the estuaries. Similarly, planned Lake Okeechobee releases to the WCAs have also been limited by high water levels in the WCAs, STA treatment capacity limits, and limited or no conveyance capacity in the primary canals within the Everglades Agricultural Area. When these conditions have occurred in the past, the releases have been delayed or discontinued to prevent adverse effects downstream from Lake Okeechobee. To address this issue, proposed operational guidance includes conducting releases from Lake Okeechobee to tide and/or to the WCAs (via STAs) to make up releases that were previously reduced or prevented. These make-up releases from Lake Okeechobee to tide (estuaries) and WCAs will occur as soon as possible and may occur when Parts C and D (Appendix A Figures 6 and 7) do not allow releases or prescribe a lower volume release. The lake make-up releases to tide (estuaries) would be limited to a pulse release from Lake Okeechobee not to exceed 2800 cfs measured at S-79, and 2000 cfs at the St. Lucie Estuary when the lake level is below the Intermediate Sub-Band. This 2000 cfs at the St Lucie Estuary includes releases from all C&SF Project structures that discharge into the St Lucie Estuary.</p> <p>If an evaluation leads to implementation of a make up release, the make up release volume will be equal to or less than the volume of water that was reduced or prevented. The make up releases would essentially allow the ability to postpone Lake Okeechobee releases. The make up release may or may not be implemented, conditions will be monitored to determine the need to implement.</p>
LWDD 3	Section 6.12.1. Page 165:.... The SEIS should not be premised on 2006 LOWSM if those triggers have not been adopted by the time the SEIS is finalized...	The Corps has provided the best available information regarding the SFWMD water shortage cutback rules in this FEIS. Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
LWDD 4	... This effect, exacerbated by potential changes in the 2006 LOWSM and SFWMD Water Shortage rules,	The Corps has provided the best available information regarding the SFWMD water shortage cutback rules in this FEIS. Refer to updates on LOWSM in

	creates a significant amount of uncertainty regarding the impact of the proposed TSP to water supply. These issues must be resolved before the Final SEIS...	sections 2.3, 4.4 and Appendix G.
LWDD 5	Appendix D. D-30: Table 3-1 Recommendations of the Draft Lower East Coast Water Supply Master Plan (LECWSP)" should be updated to those Recommendations contained in the 2006 Update to the LECWSP not the 2000 version.	Concur. This item will be located in the LECWSP and updated in the final SEIS or removed if not available
LWDD 6	The final SFWMD efforts [to address modifications to same] are anticipated to be completed prior to implementation of any new regulatory schedule for Lake Okeechobee and the efforts will be able to consider the additional data provided form the 2007 LORSS SEIS Plan." The SEIS does not state that this will be publicly reviewed before the SEIS is finalized, please address any changes to 2006 LOWSM before the Final SEIS.	The Corps has provided in this FEIS the best available information regarding the SFWMD water shortage cutback rules.
LWDD 7	While Band 1 of the Master Implementation Sequencing Plan (MISP) may provide the best information on the projected schedules of these projects, the SEIS should reflect the reality that a permanent schedule by 2010 may not be achievable. See also "Proposed Operational Guidance" page A-7	Refer to Executive Summary at the beginning of the FEIS for details on the interim nature of the schedule.
LWDD 8	....However, it is clear that the LOWSM and water shortage rules have not been finalized and are to be revisited by the SFWMD. Therefore, the effect on the TSP is unknown....	The Corps has provided the best available information regarding the SFWMD water shortage cutback rules in this FEIS. Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
LWDD 9	...The Corps and SFWMD should use every effort to finalized the LOWSM plan, model its effects in the context of the TSP and incorporate those results into the Final SEIS.... ....As stated above, the rulemaking process may be more expansive than originally contemplated and SFWMD and Corps should work to ensure that all of this analysis is complete before the Final SEIS.	The Corps has provided the best available information regarding the SFWMD water shortage cutback rules in this FEIS. Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
AGRICULTURE		
Sugar Cane Growers 1	Sugar Cane Growers Cooperative of Florida (8/15/07) The SFWMD has stated that is has no intention of lowering the WST 0.8 feet due to the increased potential for violations of the Minimum, Flows and Levels (MFL) rule. This means that water users will	Your comment makes reference to section 2.3, page 17 in the draft revised SEIS. Section 2.3 actually reads "Based on guidance from the SFWMD, the review of the existing water shortage rules is anticipated to be completed in advance of any new regulation scheduled resultant from LORSS". At the time this FEIS was

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	be faced with more frequent and severe water shortages. However, on page 17, the SEIS states that the District will complete its changes to its water shortage rules in advance of any new regulation schedule resulting from the LORSS process. Under your current timeline for implementation of the proposed lake schedule, we do not see how this rule development will be completed in time for it to be included and analyzed in your final EIS.	prepared, the Corps used the best available information from the SFWMD for the EIS analysis. Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G.
Sugar Cane Growers 2	The NEPA process requires that the Corps disclose anticipated social, economic and ecological impacts of their proposed action. How can the Corps comply with NEPA when it does not have an agreement with the local sponsor as to how the lake will be managed in the Water Shortage Management Band?	The Corps has provided the best available information regarding the SFWMD water shortage cutback rules in this FEIS. Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G. The NEPA analysis does disclose the effects of the proposed action in Section 6.
Sugar Cane Growers 3	... We believe it's incorrect and totally inappropriate to conclude that the new proposed schedule has no water supply impacts when it's clear that serious water shortages will occur when existing rules are followed.	The EIS analysis does not conclude that there would be no water supply impacts. In Section 6.12.1, the analysis indicates that adverse effects to water supply may occur.
Sugar Cane Growers 4	Compounding the uncertainty of this proposed action is the unresolved issue with the US Fish and Wildlife Service regarding its "may affect" decision under the Endangered Species Act on the Everglades snail kite, wood stork and Okeechobee gourd triggering the need for a biological opinion...	A Biological Opinion has been received, and is presented in Appendix C.
Sugar Cane Growers 5	The District would "memorialize" its water shortage operations and deal with the MFL issues prior to the approval and adoption of a new lake regulation schedule. We reluctantly agreed to this approach, however, none of these actions have yet taken place, therefore we cannot support this proposed regulations schedule, in fact the draft SEIS states that this schedule will be in place for an indeterminate amount of time until some new schedule is in place and that could take many years.	The Corps has provided the best available information regarding the SFWMD water shortage cutback rules in this FEIS. Refer to updates on LOWSM in sections 2.3, 4.4 and Appendix G. Also, refer to the Executive Summary at the beginning of the FSEIS for details on the interim nature of the schedule.
	Florida Sugar Cane League, Inc. (Young Van Assenderp, P.A. representing) 8/17/07	
Fla Sugar Cane League 1	Given these flawed assumptions, your July SEIS does not comply with the requirements of NEPA. You have concluded in the July SEIS that the new proposed Regulation schedule will have no adverse	The EIS analysis does not conclude that there would be no water supply impacts. In Section 6.12.1, the analysis indicates that adverse effects to water supply may occur.

	water supply impacts even though the water shortages experienced in 2001 and this year show just the opposite.....	
Fla Sugar Cane League 2	We are mindful that the Corps and the SFWMD share concerns of whether the Lake Okeechobee levee has structural flaws threatening its integrity in the event of storms during high lake stages. We urge you, however, not to adopt the new Lake Okeechobee Regulation Schedule but to continue or propose alternative operating protocols as temporary deviations from the established WSE schedule as you have in the past.	The Corps established the purpose, goals and objectives at the beginning of the LORS study (Sections 1.3 and 1.4). Also refer to Sections 1.5 and 1.6 for details on why the study was needed.
	Gulf Citrus Growers (8/2/07)	
	For the record, our citrus growers rely heavily on Lake Okeechobee and the connected Caloosahatchee River for their irrigation water supplies. So, we feel managing the level of Lake Okeechobee and nay "adjustments" to that lake regulation schedule to benefit the water supply needs of our growers and other permitted water users of the system should be a top priority of the Corps.....	The Corps acknowledges your comment.
	DUDA (8/21/07)	
DUDA 1	The WSE and TSP should incorporate a "permanent pool" level near the 15' mark to mimic the pre-drainage condition and to insure continued adequate local water supply for all existing users of the lake water.	For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.
DUDA 2	As I was told in a public workshop meeting, the renovation work on the HHD necessitated the level reduction, in anticipation of an "active hurricane season". Based on my experience as a Florida resident, I suggest these short term predictions be excluded from the Regulation Schedule decision-trees and renovation planning. The long-term averages and probabilistic models are our only reliable climatic data.	The Corps established the purpose, goals and objectives at the beginning of the LORS study (Sections 1.3 and 1.4). Also refer to Sections 1.5 and 1.6 for details on why the study was needed.
	ALICO, Inc. (8/20/07)	
ALICO 1	A new regulation schedule should not be forced to include a limitation of 17.25' because of dike security. A new schedule, even if called an "interim", provides a false sense of security that the repairs can wait.	Refer to the Executive Summary at the beginning of the FSEIS for details on the interim nature of the schedule.

ALICO 2	The water supply objective is lost in the 500-plus page document that discusses lake ecology; waterway navigation; estuarine health; and the greater-Everglades. These objectives should not drive the Corps to produce an EIS with a TSP that has significant impact on water supply. The term “significant” was used by Corps staff to describe the potential impact of the recommended alternative at the Belle Glade meeting.	The Corps acknowledges your comment. However, the new interim schedule attempts to balance all competing objectives, water supply is one of those objectives.
ALICO 3	Page 166 of the June 2007 draft states that “Impacts will occur to sugarcane specifically, and will not impact other crops. Additionally, all impacts will occur in the EAA and none in the four service areas”. Those of us who grow crops and citrus along the Caloosahatchee River know this finding is wrong.	The Corps acknowledges your comment. Relevant modeling data for the affected area shows no to insignificant damages to yield, given the willingness to pay evaluation described in Appendix-D.
ALICO 4	Page 21 contains another unverified assumption, and that is the continued operation of the “temporary forward pumps” to provide water during lower lake levels. <u>There are no temporary forward pumps to provide water to growers in the Caloosahatchee River.</u> We are not requesting they be added. We are requesting the Corps truly evaluate the impacts of this proposal.	The Corps acknowledges your comment. Forward pumps were included in the alternative modeling and evaluation of all alternatives.
ALICO 5	Do not change the schedule at this time, instead, develop a temporary deviation from the present schedule.	The Corps established the purpose, goals and objectives at the beginning of the LORS study (Sections 1.3 and 1.4). Also refer to Sections 1.5 and 1.6 for details on why the study was needed.
NON-GOVERNMENT		
PURR 1	The revised draft continues to use the Stormwater Treatment Area (“STA”) $\frac{3}{4}$ capacity limitation as a hard constraint, which necessarily means that Lake water cannot be sent to the Water Conservation Areas (“WCAs”) in any significant amount, especially during the wet season when high water levels are most likely to be a problem. This results in more Lake water being sent down the Caloosahatchee River into the Estuary. We double standard that places the interests of the WCAs over the interests of the Caloosahatchee Estuary and its surrounding communities. The Corps has yet to explain why it is willing to adopt a hard constraint based on water quality for the WCAs but not for the Caloosahatchee Estuary.	For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempts to balance those competing objectives.

PURRE 2	We still believe the Corps should evaluate at least one alternative that will result in significant benefits for the Caloosahatchee River and Estuary and their surrounding communities.	For a multiple purpose lake, such as Lake Okeechobee, a regulation schedule attempts to balance competing objectives such as flood control, water supply, navigation and preservation of fish and wildlife resource. The new interim schedule attempted to balance those competing objectives. Additionally, the Corps established the purpose, goals and objectives at the beginning of the LORS study (Sections 1.3 and 1.4) which supports the alternative selection. Also refer to Sections 1.5 and 1.6 for details on why the study was needed. A revision to Section 2.5 was completed to reflect current information of the forward pumps.
PURRE 3	Now that the temporary forward pumps have been permitted and installed, we believe the SEIS needs to reflect that the pumps have been permitted and constructed. Right now, the revised draft inaccurately states that the temporary forward pumps are “anticipated to be permitted and installed by the SFWMD [the South Florida Water Management District] in 2007.”	Affects on the local economies are addressed in Section 6.7 of the main report, as well as Appendix D. The impacts of each alternative are presented with the quantitative and qualitative effects on water supply, navigation, commercial fishing, recreation, and regional economic impacts. Additionally, aesthetics are addressed (6.8). Affects to the environment are addressed earlier in Section 6 of the main report and cannot directly be translated into quantifiable economic impacts without a certain degree of conjecture and speculation.
PURRE 4	Section 6 of the revised draft describes the socio-economic conditions in the affected region, but does not include any analysis of the effects of the proposed alternatives on the socio-economic environment. The purpose of Section 6 of the SEIS is to report on the effects of the alternatives, not to merely describe existing conditions. In particular, the damage to our estuary caused by the polluted Lake releases is causing significant long-term harm to our local communities, which should be addressed.	As noted in Appendix E, the SFWMM produces daily output for a 36-year period of record: 1965-2000. To quantitatively compare alternatives, relative differences should be used for the evaluation, rather than focusing on absolute numerical values. Longer periods of record provide additional information for the evaluation by including a wider range of historical climatological conditions. Future conditions do not exactly mirror the historical conditions used for an evaluation of simulation results, and operational decisions have not exactly mirrored the model assumptions for all years and all conditions due to regulation schedule deviations and coordination to address stakeholder concerns; as such, it is not recommended to directly compare absolute numerical results from previous regional modeling efforts to conditions observed during successive implementation. The Corps of Engineer's goal is to maximize the time the Lake Elevation is between 12.5 ft-NGVD and 15.5 ft-NGVD, seasonally. In order to minimize the probability of managed lake stages exceeding 17.25 feet, each band's maximum release should be expected when Lake Okeechobee stages are in the upper bands
PURRE 5	The revised draft unsuccessfully attempts to address this concern by describing the use of “additional operational flexibility” to address circumstances that were not evaluated for the period of record (1965 to 2000). The SEIS states that this flexibility is to be used when the LORSS is “not effective at managing lake levels consistent with the intent of the Preferred Alternative.” The SEIS describes some scenarios during which this additional operational flexibility might be implemented, all of which involve conditions experienced in 2001 – 2005, further underscoring the importance of modeling the effects of the various alternatives under a period of record that includes these years. It goes without saying that the Corps must do a public NEPA analysis before implementing unanalyzed operational plans that cause harm to the Caloosahatchee Estuary.	

		(High and Intermediate) of the proposed regulation schedule. When Lake Okeechobee stages are in the lower bands of the proposed regulation schedule, releases may occur less than "maximum practicable," depending on conditions. The rationale for less than "maximum practicable" releases may include reducing the probability of entering Water Shortage Management Band (based on short-term and long-term climate forecast) or responding to ecological considerations in Lake Okeechobee or the coastal estuaries, as examples. Refer to Section 3 Table 3-1.	
PURRE 6	We were disappointed to see that the Corps dismissed our concerns about water quality impacts in the Caloosahatchee River and Estuary by stating, in response to our comments on the previous draft, that, "[i]t is outside the scope of the regulation schedule study to model for water quality effects in the Caloosahatchee Estuary." This distorts the purpose of the SEIS – to identify and analyze all impacts – direct, indirect, and cumulative. This necessarily includes impacts on the Caloosahatchee River and Estuary. We are surprised that the Corps would even assert that it need not analyze water quality impacts.	Implementation of any alternative analyzed would have negligible effects to water quality. The same quantity and quality of water would be delivered to the estuary; the timing of those releases would be different with each alternative. The existing nutrient loads would not change if any one of the alternatives were implemented.	
PURRE 7	With regard to the brief analysis of the impacts of Lake releases on the Caloosahatchee River and Estuary contained in the revised draft, the numbers cited about water quality are slanted. The revised draft focuses on the fact that Lake Okeechobee releases are only one source of the nutrient loading coming into the Caloosahatchee River and Estuary. However, the year reported, 2000, was a drought year, and even in those conditions, Lake Okeechobee releases accounted for 31 percent of the total nutrient load into the Caloosahatchee Estuary. The use of data from a single year is misleading; the Corps should conduct a long-term analysis of nutrient loading. Furthermore, the Corps ignores the fact that Lake discharges are a point source that can be controlled, unlike the basin flows that account for the rest of the nutrient loads.	Refer to response to PURRE 6.	
PURRE 8	Like the previous draft, the revised draft fails to analyze how the different alternatives affect water quality in the Caloosahatchee River and Estuary. The	Refer to response to PURRE 6.	

<p>PURRE 9</p>	<p>revised draft still fails to assess how the different alternatives will affect salinity, color/turbidity, and nutrient levels in the waters receiving Lake discharges. A comparative analysis would help everyone understand the choices being made.</p> <p>We raised serious concerns regarding drinking water issues in our previous comments. We were therefore disappointed, and surprised, to see that the revised draft SEIS dismisses these concerns with a single sentence that declares, without any analysis, that none of the alternatives would adversely impact drinking water. The revised draft fails to acknowledge the link between nutrient-enriched Lake releases and outbreaks of blue-green algae in the Caloosahatchee River, which threaten a direct source of drinking water for Lee County residents and tourists. We cannot overstate how critical it is that the SEIS study this issue, and the effect that the different alternatives might have on the growth of blue-green algae in the Caloosahatchee.</p>	<p>Based on the comments on the 2006 draft SEIS regarding blue-green algae and red tide, the Corps prepared a detailed discussion on this subject in the 2007 revised draft. As noted in section 5.2, Harmful Algal Blooms, there a number of combinations of multiple factors, physical, chemical and biotic, that lead to the development and persistence of algal blooms. Through years of research it has become apparent that no individual factor, such as excessive nutrient loading, dominates algal bloom formation.</p>
<p>PURRE 10</p>	<p>The revised draft SEIS's discussion of endangered species issues remains weak. It still focuses almost exclusively on endangered species issues in Lake Okeechobee, as opposed to the Caloosahatchee River and Estuary and other areas that are undeniably impacted by Lake releases. There is still virtually no discussion of how the different alternatives might affect listed species and marine mammals in the Caloosahatchee River and Estuary, in particular the West Indian manatee, the Florida smalltooth sawfish, and various species of sea turtles.</p>	<p>The Corps has coordinated with the appropriate agencies under the Endangered Species Act for the endangered and threatened species referenced in your comment. The National Marine Fisheries Service (NMFS) concurred in their letter dated September 11, 2007 with the Corps' determination of "may affect, not likely to adversely affect" the smalltooth sawfish. The NMFS stated in the same letter that the project would have no effect on sea turtles because the project does not have any elements with the potential to affect sea turtles. There is no designated critical habitat for the sea turtle within the project area. The Fish and Wildlife Service (FWS) did disagree with the Corps' determination of "no effect" to the manatee. Instead, the FWS determined that the action "may effect, but is not likely to adversely affect" the West Indian manatee. The FWS's rationale behind their determination can be found in the Biological Opinion in Appendix C.</p>
<p>PURRE 11</p>	<p>The revised draft SEIS now mentions the presence of the five National Wildlife Refuges that depend upon the Caloosahatchee River for water, but fails to mention that these important national resources are showing signs of impaired ecosystems as a result of the polluted waters released from Lake Okeechobee into the Caloosahatchee River. The revised draft SEIS also fails to analyze how the different alternatives may impact these Refuges</p>	<p>Implementation of any alternative analyzed would have negligible effects the refuge due to the same quantity and quality of water that would be delivered downstream. The existing nutrient loads would not change if any one of the alternatives were implemented.</p>

PURRE 12	<p>The cumulative effects analysis is forward-looking only, describing planned projects and studies that <i>may</i> improve water delivery. The discussion of planned projects does not explain what effects these projects will have on such performance measures as water quality and storage capacity. Nor does the analysis consider the effects of the high volume water releases of the past that have caused significant damage to the Caloosahatchee River and Estuary. The cumulative effects analysis must look at the effects of past actions, not just describe projects that have not yet been implemented.</p>	<p>This study did look at past actions of the “No Action” alternative.</p>
PURRE 13	<p>As set forth in our comments on the previous draft, we believe the revised draft SEIS needs to indicate whether the Corps is in compliance with Florida permitting requirements. More specifically, we believe the SEIS needs to address whether the Corps needs “consumptive use” permits or Lake Okeechobee Protection Act, Fla. Stat. § 373.4595, permits as it is an owner and operator of key structures, or has ever applied or received any such permits. The revised draft remains silent on this issue.</p>	<p>The Corps has fully coordinated this action with the FDEP, the Florida permitting agency. There are no permits required for the action. On behalf of the State of Florida, the SFWMD regulates Consumptive Use permits, which is a permit that allows water to be withdrawn from surface and groundwater supplies. The Corps is not seeking authorization for water use. Therefore, a consumptive use permit as described by Ch. 40E-2, F.A.C., does not apply to this action.</p>
Southwest Florida Watershed Council (8/16/07)		
SWFWC 1	<p>Stop the practice of eliminating flow from C-78 and emptying the east Caloosahatchee into Lake Okeechobee when the river is at a higher stage than the lake. Removal of fresh water from the system during the dry season allows saltwater to move upstream impacting the habitat in the upper estuary and threatening water supply at the Olga water treatment plant.</p>	<p>The Corps acknowledges this comment.</p>
SWFWC 2	<p>The revised draft SEIS does not adequately address impacts to endangered and threatened species including the West Indian Manatees and Smalltooth Sawfish and does not include analysis of adverse impacts of the alternatives on these species.</p>	<p>The Corps has coordinated with the appropriate agencies under the ESA for the E&T species referenced in your comment. The NMFS concurred in their letter dated September 11, 2007 with the Corps’ determination of “may affect, not likely to adversely affect” the smalltooth sawfish. The FWS did disagree with the Corps’ determination of “no effect” to the manatee. Instead, the FWS determined that the action “may effect, but is not likely to adversely affect” the West Indian manatee. The FWS’s rationale behind their determination can be found in the Biological Opinion in Appendix C.</p>
National Wildlife Federation (8/20/07)		
NWF 1	<p>...RDSEIS at 144. The Corps must more thoroughly and accurately evaluate impacts on the kites.</p>	<p>Pursuant to Section 7 of the ESA, the Corps consulted with the FWS on the effects the action may have on the snail kite. A Biological Opinion dated</p>

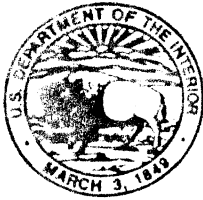
COMMENTS RECEIVED ON THE JUNE 2007 REVISED DRAFT SEIS

		October 2007 was issued to the Corps and is included in Appendix C. A thorough discussion of effects of the action is included in the Biological Opinion, as well as a list terms and conditions the Corps must comply with in order to be exempt from the prohibitions of Section 9 of the Act. Please refer to previous response (NWF 1).
NWF 2	<p>“...If lake levels predicted under this scenario are maintained for many years, the kite will not survive.” The Corps’ RDSEIS must evaluate and explain such potential impacts.</p> <p>Conservancy of Southwest Florida (8/20/07) General statements received and noted.</p> <p>Audubon of Florida (8/20/07) ...The Corps should fund investigations to determine the impacts of low water levels, and if the regulation schedule is protective enough of Kites ...The Corps should fund investigations of soil subsidence characteristics related to low water, to ensure permanent harm does not occur to gourd habitat.</p>	<p>The FWS has issued a Biological Opinion to the Corps for this action. The Biological Opinion outlines reporting and monitoring requirements. Based on the terms and conditions, the Corps will be implementing an apple snail monitoring program within the littoral zone of Lake Okeechobee. The FWS has indicated that apple snail monitoring will show more definitively the time required for apple snails to become re-established at peak densities in the littoral zone after disturbances, such as droughts severe enough to dry the entire littoral zone.</p> <p>The FWS concurs with our “may affect, not likely to adversely affect” determination for the Okeechobee gourd.</p>
Audubon 2	...As noted in our October 10, 2005 letter, the 36 years contain weather patterns that are significantly different from each other and lumping them together fails to adequately inform the public and decision makers, how this schedule is likely to perform. The Corps must develop a format method to interpret and report model results to reflect these dramatically different weather patterns.	All alternatives are compared relative to the No Action alternative for the LORSS SEIS evaluation. Performance measures were developed and agreed to by the Project Delivery Team in order to evaluate the alternatives. The complete set of performance measure output, including daily hydrologic data, for all alternatives evaluated under this study is available on the USACE web page for LORS Modeling, at the following web address: http://hpm.sfsteststore.org/loweb/sfwmml/ . A discussion of the annual and seasonal distribution of flows, including figures, to the Caloosahatchee and St. Lucie Estuaries is included in Appendix E.
Audubon 3	The DSEIS has performance measures in the Water Conservation Areas (WCAs) for peat dry out (Fig 5-5), recession rates for wading birds (Fig 5-6), water level reversals (Fig 5-7), and Snail Kites (Fig 5-9). These resources also are present in Lake Okeechobee, but comparable performance measures do not exist for the Lake. We understand these issues have been refined from longer years of work in the WCAs, but these measures must be developed for the Lake itself.	The performance measure you are referring to were developed by RECOVER. You are correct that no such performance measures have been developed for Lake Okeechobee.

Sanibel-Captiva Conservation Foundation (8/17/07)		
SCCF 1	<p>The alternatives analysis does not address the seasonality of releases and their impacts on the biological communities whose life cycle is dependent on regular, seasonal patterns of flow into the river and estuary. Spring releases have historically been the most damaging releases to the estuary and natural systems including seagrass and fish spawning. These have most often been triggered in order to get the lake down to 13 ft by the beginning of Hurricane season. There was no discussion of the seasonality of releases, their potential impacts to the estuary or how they will be considered in the operational guidance.</p> <p>...The alternatives analysis needs to address the Corps operational policy on backflowing and backpumping and quantify these impacts to the estuaries.</p>	<p>The alternative analysis does address seasonality of releases and the impacts on biological communities. Refer to Section 6.4.2 for a discussion and effects of all alternatives as related to critical reproduction period for many estuarine dependent organisms during the period of March-June. Additionally, the new schedule has the flexibility to modify releases to the estuaries during this critical time.</p>
SCCF 2		<p>Water supply backpumping to Lake Okeechobee is not included in the SFWMM modeling of the LORSS alternatives or No Action alternative; there is no increase in water supply backpumping to Lake Okeechobee under the SFWMM simulation of Alternative E, compared to the No Action alternative. Flood control backpumping to Lake Okeechobee from the EAA is included for the No Action alternative and all alternatives, with no operational changes; the total volume of flood control backpumping to Lake Okeechobee from S-2 and S-3 does not show any significant difference (very slight reduction) under the SFWMM simulation of Alternative E, compared to the No Action alternative.</p>
SCCF 3	<p>The SEIS does not identify, quantify or address the economic impacts to the estuaries of poor water quality, delivered in unnatural quantities and out of sync with the biological resources that will result from the implementation of this TSP.</p>	<p>Affects on the local economies are addressed in Section 6.7 of the main report, as well as Appendix D. The impacts of each alternative are presented with the quantitative and qualitative effects on water supply, navigation, commercial fishing, recreation, and regional economic impacts. Additionally, aesthetics are addressed(6.8). Affects to the environment are addressed earlier in Section 6 of the main report and cannot directly be translated into quantifiable economic impacts without a certain degree of conjecture and speculation.</p>
SCCF 4	<p>The SEIS fails to address water quality impacts resulting from the regulation schedule. Nutrient loading and freshwater deliveries to estuary are direct and cumulative impacts of the regulation schedule on the estuary that need to be identified and quantified.</p>	<p>Implementation of any alternative analyzed would have negligible effects to water quality. The same quantity and quality of water would be delivered to the estuary; the timing of those releases would be different with each alternative. The existing nutrient loads would not change if any one of the alternatives were implemented. Also, please refer to Sections 5.9 and 6.14 for discussion on water quality.</p>
SCCF 5	<p>The alternatives discussion does not address operational issues such as the replacement of the vertical lift gate that delivers organic loads of muck with water releases to the river. We request that a change to this delivery mechanism be made to allow</p>	<p>The LORSS scope was limited to operational changes for Lake Okeechobee. Under a separate study, the Corps is evaluating the feasibility of replacement or modification of the vertical lift gates</p>

	discharges of water from the surface instead of bottom of the water column.	
SCCF 6	The SEIS does not fully address impacts to federally listed species including the Manatee and Small tooth sawfish.	The Corps has fully coordinated with USFWS and the NMFS regarding effects to federally listed species. Please refer to Section 6.3 and 6.26.2 for consultation summary. Also refer to Biological Opinion in Appendix C.
SCCF 7	<p>Additional detail is needed regarding the assumptions and coordination between the Corps and Water Management District made about additional storage including:</p> <p>Location and capacity of basin(s) where 150,000 acre feet capacity is available today and 450,000 ac/ft is proposed to be provided and when that will be available.</p> <p>Details of how water will be conveyed to these storage sites.</p> <p>Operational guidance on what conditions would trigger diversion and duration.</p> <p>The alternatives need to address how alternative storage areas could reduce estuary flows.</p>	<p>Storage of lake water on public/private lands is not a federal action. However, the Corps strongly supports this initiative, and included language in the SEIS describing our coordination efforts with the SFWMD on this subject (Section 4.5.1 and Appendix H, Pertinent Correspondence. The Corps has included in the FSEIS the latest information available on this topic.</p>

FEDERAL



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

August 20, 2007

Colonel Paul Grosskruger
U.S. Army Corps of Engineers
701 San Marco Blvd.
Jacksonville, FL 32207


Dear Colonel Grosskruger:

Thank you for the opportunity to review and provide comments on the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee and the Everglades Agricultural Area, Lake Okeechobee, Glades, Hendry, Palm Beach, and Martin Counties, FL. We appreciate the efforts of your staff in producing this revised draft report. The Department of the Interior (Department) generally supports the Preferred Alternative (Alternative E) recommended in the SEIS as the best interim plan to manage the Lake within existing constraints and we continue to recognize that the expeditious implementation of the Herbert Hoover Dike (HHD) rehabilitation plan is crucial.

On October 12, 2006, the Department provided comments on the Draft Supplemental Environmental Impact Statement, Lake Okeechobee Regulation Schedule Study, August 2006 (Attached hereto). The Department reaffirms the comments contained in its October 12, 2006 letter and incorporates them herein by reference.

The Department notes several improvements in the revised report. In particular, the relaxation of the absolute limitation of 17.25 feet in the Preferred Alternative will withhold some of the damaging flows to the estuaries while simultaneously recognizing the need to provide for public health and safety under high lake level events. Additionally, the sections of the report dealing with the additional operational flexibility to deal with circumstances not covered in the planning model simulations have been somewhat improved in this SEIS to describe the types of circumstances or events and the setting of boundaries on the range of operational responses. Finally, the Department appreciates the response to its previous comments concerning the need to engage in multi-agency dialogue on Lake Okeechobee Supply-Side Management operations and is pleased that the Corps will recommend to the South Florida Water Management District the inclusion of the Department in weekly environmental coordination meetings.

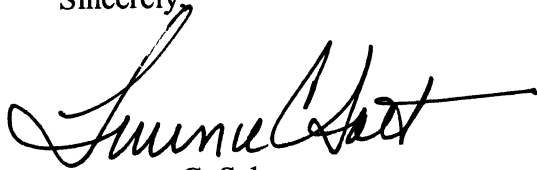
The Department continues to have concerns with respect to the potential for adverse impact on the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Refuge), in particular, the potential for under-estimation of water delivery to the Refuge and the

potential for increase in by-pass of untreated water. These concerns focus on the revised modeling analyses and are discussed further in the attached additional specific comments from the Refuge.

The Department also seeks to continue to minimize adverse environmental impacts during this interim phase and will seek to eliminate these impacts in future phases, in particular, the number and duration of extremely high flows to the Caloosahatchee which are causing ecological damage to the J.N. "Ding" Darling National Wildlife Refuge (Ding Darling), and negatively affecting other natural resources. Additional specific comments from Ding Darling are attached.

Additional specific comments from the United States Fish and Wildlife Service (Service) Ecological Services are attached. The Service is in the process of completing a biological opinion under Section 7 of the Endangered Species Act for the proposed action. The Service agrees with the general findings in the SEIS with regards to effects on threatened and endangered species, but the attached specific comments provide some recommendations to make the reasoning behind the findings in the SEIS fit more closely with the Service's biological opinion.

Sincerely,

A handwritten signature in black ink, appearing to read "Terrence C. Salt", with a long horizontal flourish extending to the right.

Terrence C. Salt
Director of Everglades Restoration Initiatives

Arthur R. Marshall Loxahatchee National Wildlife Refuge

Specific Comments

Examining modeling results in multiple areas of Refuge:

- Previous comments included questions regarding whether an adequate suite of areas in the Refuge were examined for how the recommended Lake Okeechobee schedule influenced the Refuge. The Refuge was pleased to see that model outputs were examined for more than just the 1-7 gage, and that the indicator regions used by CERP (e.g., IR 100, IR 101, and IR 102) were indeed examined.

Model simulation assumptions:

1. In the revised modeling analyses, the Corps assumed no L-8 flows delivered to the greater Everglades (i.e., LNWR) via STA-1E. This was based on SFWMD input that STA-1E was not intended to treat L-8 water. The assumption was applied for all scenarios examined, including the no-change alternative. This is contrary to the actual operation of the system by which L-8 water is indeed sent to STA-1E and then the Refuge, and thus, it needs to be recognized that this is not a realistic scenario. Of particular note, the L-8 diversion project currently envisioned will not be completed until 2009, which is shortly before the next scheduled re-visitation of the Lake Okeechobee Regulation Schedule. Therefore, L-8 water delivered to the Refuge should be included in the modeling simulations for this EIS. Upon cursory examination, this modeling assumption translates into two potential outcomes:

(1) Under-estimation of water delivery to the Refuge. On the surface, this appears to be a moot point for the exercise of comparing how one alternative relates to the no-change condition. However, it incorrectly results in overall simulation of how much water is directed to the WCAs versus other outlets in the larger South Florida water management system because it does not correctly simulate STA operations. For example, we see this foreshadowed in the statement on E-29, "Increased regulatory releases from Lake Okeechobee to the L-8 canal under the alternatives may result in increased need for flood control pumping from the C-51 basin to STA-1E, with an associated minor increase in STA-1E flow through volume and WCA-1 stage downstream of the STA."

(2) Although the efforts leading to this EIS intentionally do no examine resultant water quality, the effects of this modeling assumption are that the potential water quality loads to the STA-1 complex are greater, and thus, the potential for bypass of untreated water is increased. As a result, the Refuge has concerns over the need for additional clarification on this issue.

2. It remains unclear to the reader what modeling topography was used for the Refuge. The 400m HAED topo recently completed for the Refuge should have been used for the simulations. App. E-236 outlines the changes to the topography used, including the application of HAED topo (400m resolution from USGS) for ENP and WCA3, but does not indicate whether it was used for the Refuge. App. E-237 indicates that the

Richardson (1990) data were used for vegetation cover, leading the reader to infer that the Richardson topo might also have been used.

Lower Lake Okeechobee water levels and general impacts on Refuge during dry season and drought conditions:

- Previous Refuge comments from pages Appendix C-44 through C-45 on the lack of modeling resolution still apply to this EIS, namely, "The Service is uncertain why the current modeling does not show obvious impacts to the Refuge, when the empirical evidence from past droughts would suggest that the impacts on the Refuge may be more significant than the modeling predict." Note that the potential impacts of chronic and frequent events below the 14 foot floor of the Refuge have previously been detailed in Appendix C-22.

J.N. "Ding" Darling National Wildlife Refuge

Specific Comments

Oyster habitat and water releases- During periods of low freshwater discharge typically during the dry season, salt water regularly intrudes all the way to the structure, often exceeding 10 %. By contrast, high freshwater discharge can cause salinity to drop below 5 % at the mouth. The transition between the two states can be rapid, sometimes requiring less than a week. The fluctuations observed at the head and mouth of the estuary exceed the salinity tolerances of oligohaline and marine species. (see attached document "Oysters & Caloosahatchee monitoring"). **We'd like to see salinity tolerance levels and flow range within acceptable parameters the above species.** Also, high releases that coincide with the release of oyster spat, flush spat downstream to less suitable habitat where they are more susceptible to disease and predation or out to the Gulf.

Pulse related events- we support the continued action of utilizing "pulse" related activities to minimize potential high flow events. this would also include releasing water earlier in the year (December- April) to avoid blow outs of the estuaries. We also support a clear concise definition of a "pulse event" as evidenced by the recent action in water releases in planned deviations in 2006. We do not support the definition as defined by Corps and SFWMD as witnessed in 2005.

Adherence to min/max CFS- we support a minimum of 450 CFS with a maximum of 4500 CFS while adhering to the Est05 percentages. This would include no more than 1% for 2800 CFS / 4500 CFS while staying within limits of 43% and 32% respectively 300 to 500 CFS and 500 to 800 CFS. (see Table 2. page 21, Existing Legal Sources for the Caloosahatchee Estuary At The Franklin Lock and Dam (S-79), May 2003).

Water Reservations- we support and would like to include clear definitions and allocation to the natural resources of the estuary. Currently, it appears water allocations may be over allocated and as witnessed in the 2004-2005 wet years and recent drought, the natural resources of southwest Florida has suffered as a result of the lack of adequate allocations. There is no guarantee that provides water will flow within the established or proposed parameters (see CFS comment above).

Remove all references to non-typical operations, make-up releases and similar events from the Plan- It is understandable the Corps needs flexibility during large storm events such as floods, hurricanes but given the responsibility to the water resources and areas potentially impacted below the Lake, further damage will result if these non- typical operation decisions continue.

Prepare for the 2010 LORSS immediately- The recommended Plan is an interim Plan (two years). In the near future, the Corps would benefit from contracting for services to help develop the internal capacity to establish a baseline against which one can judge the impact of potential detrimental releases. The current drought period offers a unique opportunity for establishing such a baseline to determine and document adverse impacts to the estuaries that occurred as a result of extreme releases during 2004 and 2005 and failure to meet minimum flows and levels from the Caloosahatchee in 2007. A baseline for impacts could be demonstrated and modeled for future use.

**Ecological Services
United States Fish and Wildlife Service**

Specific Comments

Section 3.4, p. 80 The Draft EIS proposes the concept of “make-up” discharges from the lake. The FWS does not recommend inclusion of make-up discharges in the plan because they create an additional layer of uncertainty to stakeholders with, in our opinion, relatively little overall benefit. The rationale and necessity for this type of release has not been adequately justified. Water releases that are not allowed by the decision-making process at a particular time should not be moved to another time when they also are not allowed. The last sentence in this section states “The environmental effects of this action are similar to those modeled, and would be no greater than those effects already discussed in Section 6 of this SEIS.” What is the basis for this statement? It appears that the concept of make-up discharges has not been modeled.

Section 3.5, p. 81 The decision-making process includes the ability to adjust the band and sub-band limits of the regulation schedule. This appears to be a mechanism that allows water managers to modify the approved regulation schedule, and make releases based on factors outside of the modeled, decision-making process. As with the previous section, the last sentence in this section states “The environmental effects of utilizing forecasts to gradually increase or decrease Lake Okeechobee releases are similar to those effects discussed in Section 6, which are based on modeling simulations.” What is the basis for this statement? It appears that the concept of band adjustments has not been modeled.

Section 3.6, pp. 81 – 83 We believe that the Section entitled “Additional Operational Flexibility” is an improvement over the previous draft, which referred to similar issues as “Non-Typical Operations.” We find that this would meet the needs of the Corps to be able to address the described unexpected events, without the need to seek a deviation to the schedule, while also limiting the circumstances under which these conditions might be invoked, and setting some limitations on the scope of such actions. Regarding the latter, we are pleased that the Corps has stated its intent to limit pulse releases under this provision to no more than 2,800 cfs at S-79 (Caloosahatchee Estuary) and no more than 2,000 cfs to the St. Lucie Estuary.

Section 4.3.5, p. 94 The reason for selecting 17.25 ft NGVD as the flood protection performance measure (PM) elevation has not been explained. This section explains the need to have a flood protection PM, but does not explain why 17.25 ft was selected, as opposed to an elevation higher or lower than the one chosen.

Section 4.5 pp. 95-99 This section describes the potential use of state lands as storage sites for excess water, and states that it was not part of the analysis of evaluated alternatives and does not include an effects evaluation as required by NEPA. It appears that the proposal to store water on SFWMD land is not part of this revision to the

regulation schedule. If that is the case, why does the document refer to this potential action in several other sections of this report, for example, pp. 75, 76, 77, and 81? If the Corps chooses later to incorporate such actions into a future revision to the schedule, we believe that this would constitute a Federal action. Releasing excess water from the lake is a flood control measure, and appears to be within the Corps' jurisdiction. This issue should be analyzed in detail before it can be included as part of any revised regulation schedule. Separate environmental evaluations should be conducted for each property that take into account their water storage capacity, timing of releases, water quality, endangered species issues, and fish and wildlife habitat.

Section 5.31, pp. 115 – 117 The section on the endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*) is essentially correct, but on page 117, you state that during the 2001 drought, "Lake Okeechobee had a record low stage of 9.2 ft., NGVD, at which time much of the shoal area became dry". It would be more accurate to say that at such low stages, all of the littoral zone of the lake is dry. According to the SFWMD's (2000) *Minimum Flows and Levels for Lake Okeechobee, the Everglades, and the Biscayne Aquifer*, "When lake levels drop to 11 ft NGVD, Geographic Information System models indicate that 94 percent of the littoral marsh is dry and no longer functions as habitat for fish and other aquatic-dependent wildlife."

We agree with the Corps' statement in this section that prolonged drying of Lake Okeechobee's littoral zone has short-term and long-term adverse impacts on habitat suitability for the snail kite. We also generally agree with the statement that in most, but not all, years lake stage should ideally decline gradually from about 15 ft to 12 ft in the spring to benefit snail kites and wading birds. However, this section only briefly suggests that extreme high lake stages are also detrimental to the snail kite; we think that the discussion should provide more emphasis that these events are also harmful to snail kite habitat in both the short term and the long term. Short-term adverse effects include drowning of apple snails and reduction in availability of emergent vegetation stems for egg laying of apple snails; long-term effects of high water include the washing away of littoral zone vegetation (e.g. loss of bulrushes during the extended 1994 to 1955 high water period) and long-term shifts to less suitable vegetation structure for both apple snails (Darby et al. 2005) and foraging and nesting of snail kites (Bennetts et al. 1998). We note that in Section 6.31 (p. 143) of this document you do emphasize such adverse consequences of prolonged deep inundation of the littoral zone on habitat conditions for the snail kite, and you correctly point out that the no action alternative would be the worst in this regard.

Section 5.3.2, pp. 117 – 118 Because the change is so recent, it is understandable that the Corps has included outdated information on the status of the bald eagle (*Haliaeetus leucocephalus*). However, for future reference in your environmental impact statements and biological assessments, on June 28, 2007, the Secretary of the Department of the Interior removed the bald eagle from designation as threatened or endangered under the Endangered Species Act. The bald eagle will continue to be protected by the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act.

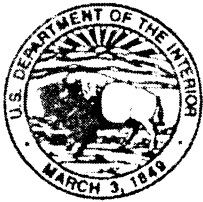
Section 6.33, pp. 144-145 This section deals with effects on the endangered West Indian manatee (*Trichechus manatus*). The FWS does not consider the manatee population to be food-limited at present, so we disagree with your statement that, "... an increase in the vegetative community on which the manatee feeds" should be a factor in your determination. We do agree with your statement that none of the alternatives would have a significant adverse effect on habitat conditions for the manatee within Lake Okeechobee. The second paragraph in this section states, in reference to the Caloosahatchee Estuary, that "... there would be no effect on the manatee or its critical habitat from the Preferred Alternative." We will concur with this statement in the FWS' forthcoming biological opinion.

Section 6.4.4, pp. 150 – 152 This section deals with simulations of potential effects on the Water Conservation Areas. The FWS participated throughout plan formulation in discussions of the simulations, including the Greater Everglades indicator regions of the South Florida Water Management Model. Although presentation of the results of such analyses in the Revised Draft SEIS is necessary for completeness and public review of the data, the FWS believes that all of the simulations showed relatively minor impacts to the indicator regions in the Water Conservation Areas. Based on discussions of these results, planning team members would likely differ in their opinions regarding the significance of such small differences in the simulations. The FWS believes that, in contrast to the simulations of the effect on Lake Okeechobee itself, these results are pushing the limits on the ability of the South Florida Water Management Model to accurately predict changes in the indicator regions. More specifically, Figure 6-5 on page 152 suggests that Alternatives A and B may be slightly better than both the no action alternative and the preferred alternative (Alternative E) for habitat suitability for the snail kite in the Water Conservation Areas. However, in the FWS' forthcoming biological opinion, we find that such a small difference in the simulation may not be significant within the sensitivity of the model; we found differences to be negligible, which supports a conclusion of no significant adverse effect on the snail kite outside of Lake Okeechobee.

Bennetts, R.E., W.M. Kitchens, and D.L. DeAngelis. 1998. Recovery of the snail kite in Florida: Beyond a reductionist paradigm. Transactions of the 63rd North American Wildlife and Natural Resources Conference (63): 486-501.

Darby, P.C., L.B. Karunaratne, and R.E. Bennetts. 2005. The influence of hydrology and associated habitat structure on spatial and temporal patterns of apple snail abundance and recruitment. Unpublished report to the U.S. Geological Survey; Gainesville, Florida.

South Florida Water Management District. 2000. Minimum flows and levels for Lake Okeechobee, the Everglades, and the Biscayne Aquifer. Draft, February 28, 2000.



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

October 12, 2006

Colonel Paul Grosskruger
Commander
United States Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Colonel Grosskruger:

Thank you for the opportunity to review and provide comments on the *Draft Supplemental Environmental Impact Statement, Lake Okeechobee Regulation Schedule Study, August 2006* (DSEIS). We appreciate the efforts of your staff in producing the draft report and look forward to working with you as we seek to improve it. The Department of the Interior (Department) generally supports the Tentatively Selected Plan (TSP) (Alternative 1BS2-M) as the best interim plan to manage the lake within existing constraints and we recognize that the expeditious implementation of the Herbert Hoover Dike (HHD) rehabilitation plan is crucial.

The Department recognizes that the water regulation schedule contained in the DSEIS (Phase 2 of the multi-phase effort to improve the regulation schedule) is an interim measure intended to remain in effect from January 2007 thru 2009. Phase 2 primarily addresses the effect of continued historically significant hurricane seasons on the structural integrity of the HHD and the resulting potential of danger to public health and safety. As a result of public health and safety concerns, described in reports by the United States Army Corps of Engineers (Corps) and the State of Florida (State), the water regulation schedule contained in the DSEIS only considered alternatives that achieve zero days above lake elevation 17.25 ft., NGVD. As a result of this constraint and in order to meet project purposes, the TSP would lower the floor of the lake stage by 1 foot. In general, the TSP uses long term low volume releases to the Caloosahatchee Estuary and the Water Conservation Areas (WCAs) to maintain these lower levels.

Phase 3 efforts, expected to begin in 2007 and be completed by 2010, will examine a new water regulation schedule based on the effects of the Comprehensive Everglades Restoration Plan (CERP) Band 1 projects and the State's Acceler8 projects. Phase 3 is also anticipated to include such infrastructure changes as permanent forward pumps. The Department expects that the effects of non-CERP projects, such as Modified Water Deliveries to Everglades National Park and the Combined Structural and Operational Plan, will be included in Phase 3 and we recommend that the DSEIS be amended to reflect this expectation.

The proposed operational guidance in the DSEIS has three distinct primary bands of lake level management. The lowest primary band is known as Supply Side Management, which varies seasonally between 9.5 and 12.0 ft., NGVD. In this band, water in Lake Okeechobee will be managed in accordance with the Supply-Side management Plan established by the South Florida Water Management District (SFWMD) with the option of utilizing temporary forward pumps when the lake level is too low to make gravity discharges for water supply. The middle and largest band, known as the Operational Band, includes several sub-bands and varies seasonally between 9.5 and 17.25 ft., NGVD. The stated goal of the TSP is to manage the lake stage within this band using regulatory releases, base flow releases, and water supply releases as appropriate. The High Lake Management Band varies seasonally above variable elevations between 16.0 and 17.25 ft., NGVD. The goal of operations in this band is to ensure public health and safety; and is designed to lower the lake to the bottom of the High Management Band as quickly as possible. The DSEIS states that in the high Lake management band it is of the utmost importance that the lake level be reduced as rapidly as possible to make room for the next possible flood, to relieve stress on the HHD, and to reduce impacts on the lake's littoral zone. Releases up to the maximum discharge capacity will be made to tide and up to maximum practicable discharges will be pumped south to the WCAs and CERP impoundments. Rates of release will vary depending on downstream channel conditions, conditions in the WCAs and stormwater treatment areas, and other constraints.

In supporting the TSP, we seek to continue to work to minimize adverse environmental impacts during this interim phase and will seek to eliminate these impacts in future phases. For example, the TSP will increase the number and duration of extremely high flows to the Caloosahatchee, is causing ecological damage to the J.N. "Ding" Darling National Wildlife Refuge, and negatively affecting other natural resources. The Department provides the following general comments on the DSEIS directed towards minimizing the potential adverse environmental impacts.

Lowering the stage in the lake will likely influence the Arthur A. Marshall Loxahatchee National Wildlife Refuge (Refuge) as the regulation schedule for the Refuge is tied to stage levels in Lake Okeechobee. Specifically, for water supply deliveries from the Refuge during certain stage conditions, preceding inflows are required from Lake Okeechobee. Although the Department's review of modeling did not show a great effect on water stages in the Refuge, we believe that the South Florida Water Management Model does not adequately simulate effects on the Refuge when the lake is low, and any minimization of the preceding inflow requirement may impact Refuge resources during critical dry periods, including the following:

- Increase the expansion of exotics
- Facilitate undesirable conversion of slough and wet prairie habitats to sawgrass and shrub habitats
- Decrease habitat suitability for fish populations
- Potentially reduce nesting options for wading bird populations
- Increase the likelihood of severe wildland/muck fires
- Influence how the marsh responds to re-wetting events when stage and/or rainfall increases during the beginning of the rainy season.

To minimize these potential impacts, the Department recommends the institution of a weekly coordination forum during Supply Side Management operations (such as the coordination meeting that currently occurs quarterly between partner agencies related to supply-side management) to create a dialogue and coordinate efforts to ensure that Refuge resources are protected during drought conditions. Of course, the long term fix for this situation is to identify and implement permanent alternative water supply practices that will minimize dependency on the Refuge for water supply purposes.

The DSEIS points out that total phosphorus concentrations in Lake Okeechobee climbed to levels as much as four to five times higher than normal as a result of the 2004 hurricanes. Furthermore, the DSEIS notes that model results indicate very minor adverse effects from any alternative to the receiving marsh areas in the Water Conservation Areas (WCAs). These minor effects are primarily due to the stormwater treatment areas (STAs) water quality treatment capacity (currently 64,000 acre-feet annual average based on a lake water phosphorus level) constraint on regulatory discharges from Lake Okeechobee to the WCAs. The DSEIS adds that as phosphorus levels decline in the lake more water can be treated in these STAs and delivered south to the WCAs. As it is not explicitly stated in the DSEIS, the Department believes it is important to reflect in the DSEIS that all releases to the marsh areas will meet applicable State and Federal water quality requirements.

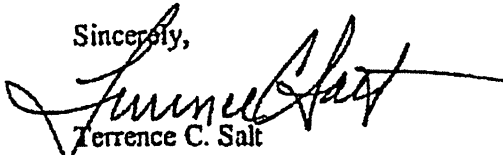
Additionally, Appendix A to the DSEIS includes two items that require additional clarification. The first is a provision for "Make-up Releases" when planned Lake Okeechobee releases to tide (estuaries) must be reduced or prevented due to downstream conditions such as downstream local basin runoff, the tidal cycle, and tidal storm surge. To address this issue, the TSP proposes to conduct releases from Lake Okeechobee to tide to "make up" for the releases that were previously reduced or prevented. The TSP proposes that these "Make-up Releases" from Lake Okeechobee to tide (estuaries) will occur as soon as possible. The Department recommends that the SEIS describe more fully the operational guidance for these "Make-up Releases" including the temporal and volumetric limits for these releases and the accounting methodology. The SEIS should also describe the notification protocols whenever "Make-up Releases" are implemented.

Secondly, Appendix A to the DSEIS also includes new operational guidance for Non-typical Temporary Operations (NTO). The DSEIS states that NTO will only be considered for use when the Management Bands and the regular operational guidance are ineffective at managing lake levels. The DSEIS states that, in most cases, the achievement of lake levels represented by the Operational Guideline will be achieved without NTO. The Department agrees with the DSEIS that NTO should be rare events. Although some events, such as hurricanes, are certainly events that could justify NTO, it is not clear how other conditions would trigger the NTO. The Department recommends that the TSP describe in greater detail the deliberation, coordination, and notification process that would lead to a decision to invoke NTO.

Detailed and technical comments from the United States Fish and Wildlife Service (Service), the Refuge, and the United States Geological Survey (USGS) are attached. Additionally, the Service is in the process of drafting a Fish and Wildlife Coordination Act Report (CAR) and will submit it separately. The CAR includes recommendations on incorporation of managed recessions into the TSP. The Service is also engaged in formal

consultation with the Corps under Section 7 of the Endangered Species Act. The Biological Opinion resulting from the formal consultation will focus on the effects of the TSP on the endangered Everglades snail kite (*Rostrhamus sociabilis plubeus*), which has designated critical habitat within the littoral zone of Lake Okeechobee.

Sincerely,

A handwritten signature in black ink, appearing to read "Terrence C. Salt", written over the printed name.

Terrence C. Salt
Director of Everglades Restoration Initiatives

Attachments

United States Fish and Wildlife Service

Specific Comments

Section 1.4. Agency Goal or Objective (page 5). We are concerned that the Tentatively Selected Plan (TSP) does not appear to meet the Corps' goal to improve the health of the Caloosahatchee estuary, specifically mentioned in objective c: "Reduce high regulatory releases to the estuaries." The TSP increases the number and duration of extremely high flows to the Caloosahatchee.

Section 1.6. Decisions to be Made (page 7). In this, and several other later sections in the document, it is stated that "... the Corps eliminated alternatives that did not achieve zero or close-to-zero days above lake elevation 17.25 ft." To clarify, the Corps eliminated all alternatives which did not achieve zero days above 17.25 ft. One of the eliminated alternatives, alt1bS2-A, which had a markedly better performance in the Caloosahatchee estuary than did the TSP, increased lake elevations above 17.25 ft only 12 days out of the 36 year period of record.

Table 2-2: Summary of Direct and Indirect Impacts (page 34) and Section 5.15 Water Quality (page 123). The SEIS states that there will be no adverse effects to water quality for all alternatives. It appears as though the Corps' water quality evaluation was limited to only water quality within the lake. The TSP is sending, on an annual average, 84,780 acre/feet more water to the Caloosahatchee estuary. As discussed elsewhere in the SEIS, the quality of this additional water is worse than water sent to the Caloosahatchee in past years. Further analysis of the impacts of this degraded water on the Caloosahatchee estuary is warranted.

Figure 3-4 (page 39) and Figure 7 in Appendix A (page A-12) The Service does not believe that this figure and specifically, the "Operational Guideline" displayed in this figure, provide additional valuable information about how the Corps intends to manage water in the lake. We believe that Figures 4 through 6 of Appendix A provide a clear and sufficient description of the Corps' plan. The operational bands in Figure 4 and the decision trees in Figures 5 and 6 (in Appendix A) provide identifiable decision points that have proven to be useful in explaining operational decisions to the various stakeholders, while providing, in our opinion, more than adequate operational flexibility to the Corps. We believe that Figures 3-4 and Figure 7 should be eliminated from the description of the plan, because they oversimplify (release above the line and hold below the line) the complex issues surrounding management of the lake and could confuse stakeholders.

Section 3.1.2. Lake Okeechobee Management Bands (page 42). One difference between Sub-Band 1/No Flow and Sub-Band 2/Base Flow is that no base flow is sent to the Caloosahatchee estuary in Sub-Band 1, despite the fact that water supply cutbacks are not yet implemented. It has been brought up several times by public and agency comment in previous public meetings, and during the team meetings for this project's evaluation, that

years. We currently consider that this would provide a favorable balance between the role of drydowns in long-term maintenance of desirable submerged and emergent vegetation in the lake; and the need to allow the apple snail population to recover after drying events to support the endangered snail kite and other species that prey upon them. We also recommend that any unplanned events (droughts without active lowering of the lake) which meet the established criteria in the preceding decade be counted in the calculation of the average return frequency.

The Managed Recession Decision Tree on page F-9 should to have a key included, or it should be explained in detail within the text of this appendix. What is the scientific foundation of the 20,000 acre recovery threshold? Also please describe the seed bank evaluation, and how it will be incorporated into the decision making process. What is meant by "Major Weather Event", and how do they affect the decision to pursue the managed recession for the year? Does this category include both wet and dry events, such as hurricanes and droughts? And does a Major Weather Event refer to only events that have occurred during the year prior to the planned recession, or potential events in the future forecast?



United States Department of the Interior

U. S. GEOLOGICAL SURVEY

Reston, VA 20192

Subject: Review of Draft Supplemental Environmental Impact Statement for the Lake Okeechobee Regulation Schedule Study, Glades, Hendry, Martin, Okeechobee, and Palm Beach Counties, Florida

As requested by the U.S. Department of the Interior, Office of Environmental Policy and Compliance, in their correspondence of August 23, 2006, the U.S. Geological Survey (USGS) has reviewed the subject draft supplemental environmental impact statement (EIS) and offers the following comment.

SPECIFIC COMMENT

Page 96 and Figure 5-8, Section 5.2.2 Estuarine Vegetation

The text and figure describe the total number of weeks that the model predicts water depths greater than 2.5 feet under the various alternatives. The text explains that total number of weeks should not exceed 17 per year; however, whether or not a particular alternative exceeds this criteria in a given year cannot be determined (except on average) from the figure. The text goes on to state that "...the total number of weeks (events * duration) varies..." However, Figure 5-8 does not allow the reader to distinguish between (at the logical extremes) one very long inundation event, possibly of several years' duration occurring under one alternative, and many short inundations of a few weeks each with a drying-out time between each under another alternative. These two extreme hypothetical scenarios could add to the same total number of weeks (events * duration) but have very different environmental effects. Finally, there is a problem with the y-axis on Figure 5-8 -- for all alternatives, the number of inundation weeks, varying from 2,265 to 2,341, exceed the total number of weeks in the 36-year simulated period of record.

Thank you for the opportunity to review and comment on this draft supplemental EIS.. If you have any questions concerning our comments, please contact Lloyd Woosley, Chief of the USGS Environmental Affairs Program, at (703) 648-5028 or at lwoosley@usgs.gov.

Lake Okeechobee Regulation Schedule and potential impacts/issues for the Arthur R. Marshall Loxahatchee National Wildlife Refuge

Potential impacts/issues of the Lake Okeechobee TSP Regulation Schedule Revision: Refuge staff have identified a number of potential impacts of the Lake Okeechobee TSP on Refuge resources. Additionally, staff identified a list of information needs that would provide a better understanding of the overall influence of the Lake Okeechobee TSP on the Refuge. Finally, a list of initial recommendations for management actions aimed at minimizing the impacts of a Lake Okeechobee regulation schedule change is presented.

Potential impacts

Managing Lake Okeechobee at lower levels may reduce preceding inflow events to the Refuge because of an increased likelihood of the difference between the Lake and Refuge stages being more than 1 ft. Not triggering the preceding inflow requirements to the Refuge may also increase the likelihood of deviation requests by water users to go below the 14 ft floor for water supply purposes.

Limitations of TSP model output and information needs

- For evaluation purposes, the South Florida Water Management Model (referred to as the 2 x 2 model) uses the 1-7 gauge to characterize water levels in the Refuge as a whole. Because of the large area of the Refuge and a 5 ft difference in soil elevation between the north and south of the Refuge, examining model output for the 1-7 gauge does not provide a reliable picture of changing water levels for the Refuge as a whole. The 1-7 gauge is located in the center of the Refuge and characterizes the least hydrologically impacted area; in general, the north is too dry, and the south too wet. For better spatial coverage, model evaluations should be coupled with output for the 1-9, Lox North, and Lox South gauges.
- An approach similar to that used for the modeling Initial CERP Update (ICU) should be pursued. The ICU examined multiple hydrologic performance measures, ecology-based habitat suitability indices (albeit at a 2 x 2 mile scale), and the use of indicator regions (multiple 2 x 2 grid cells combined for evaluation purposes to separately examine the northern, central, and southern regions of the Refuge). This multi-faceted approach provides the most holistic perspective possible given the spatial limitations of the 2 x 2 model. While the draft EIS for the Lake Okeechobee TSP does examine hydrological performance measures, indicator regions across the Greater Everglades landscape are combined together, making it challenging to understand potential changes to Refuge hydrology.
- For the purposes of examining potential changes to the WCA-1 regulation schedule, Refuge staff have identified several pieces of information that would ideally be beneficial for further examination of the proposed changes to the Lake Okeechobee schedule:
 - the new, high-resolution topography (400 meter grid)
 - new hydrodynamic and water quality tools developed for the Refuge
 - the latest vegetation map for the Refuge (SFWMD still working to complete)

- a synthesis of what we currently know about hydrologic changes in the Refuge
 - the new Everglades Depth Estimation Network (EDEN) developed by USGS
- During the spring recession period reversals in water levels can cause:
 - nest flooding for both wading birds and alligators
 - nest abandonment because of the reduced foraging ability of adult wading birds for feeding nestlings
 - increased predator encounter potential with increased water levels from reversal event when compared to predator movement under low water levels.
- It is important that the frequency and magnitude of reversals resulting from the Lake Okeechobee TSP not be greater than under current conditions; however, this information is not presented in the draft EIS. Although the draft EIS examines reversals across the entire Greater Everglades, the three indicator regions for the Refuge are not independently characterized.
- It is unclear to what extent lowering the floor of Lake Okeechobee by 1 ft will influence the MFLs established for the Refuge, especially given the increased potential for deviation requests for water supply purposes as described above.

Potential management recommendations

- Efforts should be made to minimize accelerated recession rates. A recession rate of no greater than 0.2 feet per week (the same recession rate used in the current temporary deviation) is recommended.
- Every attempt should be made to identify and implement permanent alternative water supply practices that will minimize dependency on Refuge water for water supply purposes. Water supplied to the Lake Worth Drainage District (LWDD) via the C-51 canal has been shown to partially supplement existing use. A plan has been developed, but not yet implemented, to permanently install pumps to provide water supply for LWDD that will provide an option for water delivery other than through the Refuge. Other water management options should be examined and implemented.
- Currently, WCA-1 is generally managed at the upper limit of the regulation schedule (i.e., deeper conditions). This operational practice results in less hydrologic variability within a Zone, which may not reflect the intended historical environmental conditions. Similarly, the modeling for the Lake Okeechobee TSP is based on operational decisions to manage at the upper limit of the regulation schedule. Based on regional wet/dry conditions, efforts should be made to allow for more variability within the regulation schedule, and to incorporate this variability into modeling applications.

Currently, unlike Lake Okeechobee, water supply deliveries from the Refuge do not occur from a supply-side management perspective. Implementation of the Lake Okeechobee TSP may result in reducing water management options during dry events and/or times of drought. Coordination of water-use activities currently occurs during quarterly water coordination meetings with partner agencies such as LWDD, SFWMD,

and Corps staff. An alternative forum may be necessary to examine potential supply-side management efforts to ensure Refuge resources are protected during drought conditions.

the concept of "shared adversity" should be extended to include base flows (or the lack thereof) to the estuary. The Caloosahatchee appears to be burdened with an unfair portion of the adversity; cutbacks on Caloosahatchee deliveries occur prior to other water users. The Service recommends that base flow to the Caloosahatchee should extend to the bottom of the Operational Band, and should not be curtailed until Supply-Side Management for water supply goes into effect.

Section 5.2.2. Estuarine Vegetation – Caloosahatchee Estuary (page 91). This section and elsewhere mention that all alternatives improve conditions within the Caloosahatchee estuary by increasing the number of flows within the preferred flow range of 450 cfs to 2,800 cfs, without mentioning that the vast majority of this improvement comes only from reducing the number of low flow (< 450 cfs) events. The evaluation of the low flow events and this preferred range of flows appear to be overemphasized, and not enough attention has been given to the high flows. It is true that the number of flow events between 2,800 cfs and 4,500 cfs is reduced by the TSP; however, the high flow events that remain are much higher in volume (> 4,500 cfs) and longer in duration. The report does not include in its evaluation the number of high flow events that last longer than 12 weeks, of which the TSP has 13 occurrences. A freshwater flow event lasting longer than three months is a devastating incident by any measure, and should be avoided. The increase of total volume of freshwater being sent to the Caloosahatchee under the TSP should be described. Discounting water sent during base flow environmental releases, approximately 33,000 acre/feet of additional water would be sent down the Caloosahatchee, on an annual average, during regulatory releases.

Section 5.28. Compliance with Environmental Requirements (page 126). The section should reference the Wilderness Act of 1964. Portions of the J.N. "Ding" Darling National Wildlife Refuge are designated as Wilderness under the act, and this document should evaluate project impacts to these areas accordingly.

Appendix F, Draft Incorporation of Periodic Managed Recessions into the Tentative Selected Plan. We believe that the overall structure of this section provides a useful chronological account of the evolution of scientific opinion on this topic. However, we think that a clearer statement of this chronology is needed; the paper should be updated to include more recent documents on the topic, and the recommendations for the current plan should be provided under a separate heading other than "F.5 Additional Considerations." We recommend that the Corps summarize all of the literature that followed the managed recession in 2000, with particular emphasis on two summaries by Dr. Karl Havens from 2005, which we have forwarded via email to the Corps' Jacksonville District. After expanded discussion of the Corps' opinion regarding the more recent analyses, we recommend that the Corps add a separate section describing the proposed parameters of future managed recessions (e.g. 12 foot stage for 12 weeks, or some other recommendation).

We feel that the most important ecological factor has not yet been addressed in Appendix F – the intended return frequency of these managed recessions. We recommend that these events not be planned any more frequently than, on average, once in every 8 to 10



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F/SER31:AL

SEP 27 2006

Ms. Yvonne Haberer
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232

Dear Ms. Haberer:

This responds to your August 10, 2006, letter regarding the Corps of Engineers' (COE) request for Endangered Species Act (ESA) section 7 consultation on the draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule Study (LORSS). You stated that the draft SEIS constitutes the COE's Biological Assessment. According to the draft SEIS, the purpose of the LORSS is to implement a new water regulation schedule that would improve the health of Lake Okeechobee and the St. Lucie and Caloosahatchee estuaries, while ensuring public health and safety with minimal to no impact on competing project (lake) purposes. The project area includes Lake Okeechobee, the Caloosahatchee River and Estuary, the St. Lucie River and Estuary, Water Conservation Areas, and the Everglades Agricultural Area. You stated that implementation of the preferred alternative in the draft SEIS may affect but is not likely to adversely affect the endangered smalltooth sawfish (*Pristis pectinata*) and the threatened Johnson's seagrass (*Halophila johnsonii*) and requested the National Marine Fisheries Service's (NMFS) concurrence.

NMFS has reviewed the draft SEIS; the information provided is insufficient for us to evaluate the direct, indirect, and cumulative effects of the preferred alternative on listed species designated under the ESA within our purview. We have enclosed NMFS' Recommendations for the Contents of Biological Assessments (BAs) and Biological Evaluations (BEs) and encourage the COE to follow these recommendations. In order to evaluate the range of possible effects to listed species, NMFS requests that the COE's BA be amended to address the following:

1. Fully describe all possible direct, indirect, and cumulative effects to listed species from the preferred alternative (see enclosed, refer to definitions on page 3).
2. Fully describe interrelated and interdependent actions (see enclosed, page 3).
3. Please provide the best available information concerning seagrasses that may be present at the mouth of the St. Lucie and Caloosahatchee Rivers. We are especially concerned regarding potential effects to Johnson's seagrass that may be present at or in close proximity to the mouth of the St. Lucie River. Please state whether Johnson's seagrass will be directly or indirectly affected by the proposed freshwater releases. A seagrass survey within the action area may be needed to determine presence or absence of Johnson's seagrass. The St. Lucie Inlet is designated critical habitat for Johnson's seagrass. The revised BA should clearly state whether the St. Lucie Inlet is part of the action area for the proposed project. If the St. Lucie Inlet is part of the action area, the



COE should make a determination regarding designated critical habitat for Johnson's seagrass.

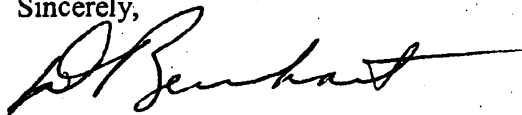
4. Please state whether mangroves would be affected by the proposed freshwater releases.
5. The draft SEIS states flow range greater than 2800 cfs can be significantly damaging to the estuary (page 125). Please state the time of year when high-volume releases (i.e., releases greater than 2800 cfs) would occur and what is the anticipated frequency of high-volume releases into the St. Lucie and Caloosahatchee Rivers.
6. Describe after-action changes to the action area.
7. Describe measures that will be implemented to avoid or minimize adverse effects and enhance beneficial effects to listed species and their habitats (whether designated or not).

Also enclosed are Johnson's seagrass survey guidelines. Johnson's seagrass surveys must be conducted during the growing season between April 1st and August 31st.

Section 7 allows NMFS up to 90 days to conclude formal consultation with your agency, and an additional 45 days to prepare our biological opinion (unless we mutually agree to an extension). Therefore, if formal consultation is necessary, our anticipated biological opinion completion date is 135 days from the date of our receipt of the information requested above. The ESA requires that, after initiation of formal consultation, the federal action agency must make no irreversible or irretrievable commitment of resources that limits future options. This practice ensures agency actions do not preclude the formulation and implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species, or destroying or modifying their critical habitats. If the information we have requested from the COE and the applicant allows us to determine that the section 7 consultation can be accomplished informally, NMFS will respond within 30 calendar days if possible.

If you have any questions, please contact Audra Livergood, Fisheries Biologist, at (305) 595-8352, or by e-mail at Audra.Livergood@noaa.gov.

Sincerely,



David M. Bernhart
Assistant Regional Administrator
for Protected Resources

Enclosures (2)

cc: F\SER47: Jocelyn Karazsia, HCD
Victoria Foster, EPA

File: 1514-22 F.1 FL JSG
Ref: T/SER/2006/04089

Haberer, Yvonne L SAJ

From: Audra Livergood [Audra.Livergood@noaa.gov]
Sent: Monday, October 02, 2006 1:46 PM
To: Haberer, Yvonne L SAJ
Cc: Teletha Mincey; Eric Hawk
Subject: Re: Email address

Attachments: 04089_LORSS_RAI_Final.pdf; MMLTechReport1070-1_smalltooth sawfish.pdf



04089_LORSS_RAI MMLTechReport107
_Final.pdf (110... 0-1_smalltooth...

Hi Yvonne,

Thanks for the call today. As per our discussion, please find attached the electronic version of our RAI letter in response to the draft SEIS for the Lake Okeechobee regulation schedule study proposed modifications and the Mote Marine Lab Technical Report on the Movement and habitat use of smalltooth sawfish. I have also included the link to the Smalltooth Sawfish Draft Recovery Plan. The Recovery Plan and Federal Register Notice can both be accessed from the following website:

<http://www.nmfs.noaa.gov/pr/recovery/plans.htm>

As per our discussion today, I understand that the proposed modifications to the regulation schedule are operations and maintenance

(O&M) and are not CERP-funded. There are no structural modifications proposed for this phase of the project. However, CERP funding and structural modifications are proposed for the next phase of the project, at which time the COE may be able to complete hydrological modeling and surveys needed to determine the effects of the project on Johnson's seagrass. NMFS provided the COE with Bob Virnstein's contact information. Dr. Virnstein has mapped known locations of Johnson's seagrass in the Indian River Lagoon. A three-dimensional hydrological model should be able to determine the direction and flow of the freshwater releases into estuarine and marine waters. This will assist NMFS in determining whether Johnson's seagrass will be affected by the freshwater releases, once the mapping information is obtained.

Please consider the request for additional information and recommendations provided below to be a supplement to the attached RAI letter:

The National Marine Fisheries Service (NMFS) recommends that the Corps of Engineers (COE) run a three-dimensional hydrological model to predict the following:

- 1) The distribution and flow of the freshwater releases as they make their way from the mouth of the St. Lucie and the Caloosahatchee Rivers into estuarine and marine waters. We are especially concerned about the direction and flow of the releases at the mouth of the St. Lucie River since this area is within the range of Johnson's seagrass. In addition, the St. Lucie Inlet is designated critical habitat for Johnson's seagrass. If the St. Lucie Inlet is part of the action area, the COE

should determine whether the proposed project would adversely modify designated critical habitat for Johnson's seagrass.

2) Please describe the baseline and after-action salinity regime in the estuarine and marine waters that will be affected by the freshwater releases. We are especially concerned about changes in salinity in areas that support Johnson's seagrass. Please include approximate water depths (at high and low tides) in areas that support Johnson's seagrass that would be affected by changes to the baseline salinity.

If you have any questions concerning this e-mail or the attachments, please contact me by e-mail or by telephone at 305-595-8352.

Thank you,
Audra Livergood

Haberer, Yvonne L SAJ wrote:

>
>
> Yvonne Haberer
> Biologist
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> 701 San Marco Boulevard
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>



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SEP 11 2007

F/SER31:AL

Mr. David Hobbie, Chief
Environmental Branch
Planning Division
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232

Re: Draft Supplemental Environmental Impact Statement (DSEIS) for changes to the Lake
Okeechobee Regulation Schedule (LORS)

Dear Mr. Hobbie:

This responds to your July 9, 2007, letter and DSEIS regarding the subject Corps of Engineers' (COE) study. You indicated that the DSEIS is intended to serve as the COE's biological assessment (BA) for the project. The purpose of the proposed changes to the LORS is to reduce the frequency high volume freshwater releases from Lake Okeechobee to the St. Lucie and Caloosahatchee Canals that flow into the downstream St. Lucie and Caloosahatchee Rivers, with the ultimate goal of improving the environmental health of the St. Lucie and Caloosahatchee estuaries. You determined that the proposed activity is not likely to adversely affect smalltooth sawfish and Johnson's seagrass and requested the National Marine Fisheries Service's (NMFS) concurrence, pursuant to section 7 of the Endangered Species Act (ESA). NMFS' determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. You are reminded that any changes to the proposed action may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

The LORS study area is comprised of Lake Okeechobee, the St. Lucie estuary located at the Martin/St. Lucie County line, the Caloosahatchee estuary in Lee County, and to a lesser degree, the Everglades Agricultural Area (EAA) located south of Lake Okeechobee, the northern Water Conservation Areas (WCAs) located in Broward and Palm Beach Counties, and the Lake Worth Lagoon in Palm Beach County, Florida.

Historically, high water levels in Lake Okeechobee have led to high volume freshwater releases to the coastal estuaries causing stress to marine habitats. To lessen some of the environmental impacts from high volume releases of freshwater and to accommodate for Herbert Hoover Dike (HHD) structural limitations, a lower lake regulation schedule is necessary. The project has many purposes, including flood control and water supply for agriculture, municipalities,



Everglades National Park, preservation of fish and wildlife, recreation, navigation, and prevention of salt water intrusion. You stated the proposed changes to the LORS represent the best operational compromise at this time to improve the environmental health of certain major ecosystems, while providing for public health and safety as it pertains to the LORS and the HHD that is constructed along the perimeter of Lake Okeechobee for flood control purposes. The proposed action is operational and does not involve construction or removal of any physical structures. The purpose of the proposed changes to the LORS is to reduce the number of high volume freshwater releases from Lake Okeechobee to the St. Lucie and Caloosahatchee Canals that flow downstream into the St. Lucie and Caloosahatchee Rivers, with the ultimate goal of improving the environmental health of the St. Lucie and Caloosahatchee estuaries.

Smalltooth sawfish, Johnson's seagrass, and five species of sea turtles (loggerhead, Kemp's ridley, green, leatherback and hawksbill) protected by the ESA and under NMFS' purview, are known to occur in the downstream estuarine and marine waters of the Lake Okeechobee watershed. Johnson's seagrass is found on the Atlantic coast of Florida, primarily in lagoonal systems from Sebastian Inlet south to central Biscayne Bay. Smalltooth sawfish are known to occur along both the Gulf and Atlantic Coasts of Florida, but tend to have a higher density at the mouth of the Caloosahatchee River as compared to the St. Lucie River. Their core range extends along the Everglades coast from the Ten Thousand Islands to Florida Bay, with moderate occurrence in the Florida Keys and at the mouth of the Caloosahatchee River¹. NMFS believes the project would have no effect on sea turtles because the project does not have any elements with the potential to affect sea turtles. There is no designated critical habitat within the project area.

NMFS believes smalltooth sawfish and Johnson's seagrass may be affected by the proposed work. NMFS does not believe the project would have any direct effects on these species because the proposed changes to the LORS are operational and do not involve any construction or removal of physical structures. Indirect effects may include potential changes in the movement patterns of individual smalltooth sawfish either upstream or downstream as a result of changes in salinity (related to the amount of freshwater flow) within the downstream waters of the Caloosahatchee and St. Lucie estuaries. NMFS believes the preferred alternative may have an indirect benefit for seagrasses in the St. Lucie estuary, including Johnson's seagrass, because implementation of the preferred alternative would result in fewer high volume freshwater discharges from Lake Okeechobee. Information provided in the DSEIS indicates that high volume freshwater discharges (greater than 3,000 cfs) potentially cause adverse impacts to marine waters in the Indian River Lagoon, which may adversely impact seagrasses. By reducing the number of high volume freshwater releases to the St. Lucie estuary, it may indirectly benefit marine habitats such as seagrass beds. Therefore, NMFS believes implementation of the preferred alternative may indirectly benefit seagrasses in the St. Lucie estuary, including Johnson's seagrass.

NMFS believes the preferred alternative would have at most an insignificant effect on smalltooth sawfish. Based on research conducted by Mote Marine Lab in which scientists tracked the movements of six juvenile smalltooth sawfish upstream and downstream of the Caloosahatchee

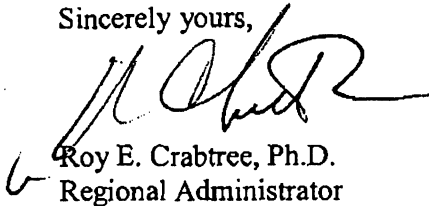
¹ Simpfendorfer, C.A. 2006. Movement and habitat use of smalltooth sawfish. Mote Marine Laboratory Technical Report 1070, Final Report.

River, the results indicate that individuals move further up river in the spring when freshwater flows are low and further down river in summer when freshwater flows are high. The results suggest there may be a relationship between use of the river and salinity.² NMFS believes juvenile smalltooth sawfish may be moving away from areas where the salinity is too low. The preferred alternative proposes to reduce the number of high volume freshwater pulse releases to the Caloosahatchee and St. Lucie estuaries, with more gradual freshwater releases over a longer period. NMFS believes juvenile smalltooth sawfish that migrate up river may be able to utilize upstream habitats for greater periods of time since there will be fewer high volume releases of freshwater under the preferred alternative schedule. We believe that the overall effects of the proposed action on smalltooth sawfish will either be neutral or insignificant.

Based on our analysis, we concur with the COE's determination that the proposed action is not likely to adversely affect any listed species under our purview. This concludes your ESA consultation responsibilities with NMFS for the proposed project. Be advised that the consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

We have enclosed additional information on other statutory requirements that may apply to this action, as well as information on NMFS' Public Consultation Tracking System (PCTS) that allows you to track the status of ESA consultations. We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation or PCTS, please contact Audra Livergood, fishery biologist, at (305) 595-8352, or by e-mail at Audra.Livergood@noaa.gov.

Sincerely yours,



Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosure

cc: Jocelyn Karazsia, HCD West Palm Beach

File: 1514-22.F.1.FL

Ref: I/SER/2007/04580

² *Ibid.*

Additional Considerations for ESA Section 7 Consultations (Revised 12-6-2005)

Marine Mammal Protection Act (MMPA) Recommendations: The Endangered Species Act (ESA) section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA section 101 (a)(5) is necessary. Contact Ken Hollingshead of our NMFS Headquarters' Protected Resources staff at (301) 713-2323 for more information on MMPA permitting procedures.

Essential Fish Habitat (EFH) Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division (PRD) pursuant to section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act's (MSA) requirements for essential fish habitat (EFH) consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Public Consultation Tracking System (PCTS) Guidance: PCTS is an online query system allowing federal agencies and U.S. Army Corps of Engineers' (COE) permit applicants to track the status of NMFS consultations under ESA section 7 and under MSA sections 305(b)(2) and 305(b)(4): Essential Fish Habitat. Access PCTS via: www.nmfs.noaa.gov/pcts. Federal agencies are required to enter an agency-specific username and password to query the Federal Agency Site. The Corps Permit Site allows COE permit applicants the ability to check on the current status of Clean Water Act section 404 permit actions for which NMFS has conducted an ESA section 7 consultation with the COE since the beginning of the 2001 fiscal year (no password needed).

For COE-permitted projects, click on "Enter Corps Permit Site." From the "Choose Agency Subdivision (Required)" list, pick the appropriate COE district. At "Enter Agency Permit Number" type in the COE district identifier, hyphen, year, hyphen, number. The COE is in the processing of converting its permit application database to PCTS-compatible "ORM." An example permit number is: SAJ-2005-000001234-IPS-1. For the Jacksonville District, which has already converted to ORM, permit application numbers should be entered as SAJ (hyphen), followed by 4-digit year (hyphen), followed by permit application numeric identifier with no preceding zeros. E.g., SAJ-2005-123, SAJ-2005-1234, SAJ-2005-12345.

For inquiries regarding applications processed by Corps districts that have not yet made the conversion to ORM (e.g., Mobile District), enter the 9-digit numeric identifier, or convert the existing COE-assigned application number to 9 numeric digits by deleting all letters, hyphens, and commas; converting the year to 4-digit format (e.g., -04 to 2004); and adding additional zeros in front of the numeric identifier to make a total of 9 numeric digits. E.g., AL05-982-F converts to 200500982; MS05-04401-A converts to 200504401. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov. Requests for username and password should be directed to April Wolstencroft (PCTSUsersupport@noaa.gov).

Haberer, Yvonne L SAJ

From: Robin Wiebler [Robin.Wiebler@noaa.gov]
Sent: Tuesday, July 24, 2007 3:27 PM
To: Haberer, Yvonne L SAJ; Jocelyn Karazsia; Mark Sramek
Subject: Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee

Attachments: No-Objection letter 24 July.doc



No-Objection letter
24 July.do...

National Marine Fisheries Service
Southeast Regional Office
263 13TH Avenue South
St. Petersburg, Florida 33701

July 24, 2007

Colonel Paul L. Grosskruger
District Engineer, Jacksonville District
Department of the Army, Corps of Engineers
Jacksonville Regulatory Office, South Permits Branch
PO Box 4970
Jacksonville, Florida 32232-0019

Dear Colonel Grosskruger:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida. We anticipate that any adverse effects that might occur on NOAA's trust resources would be minimal and, therefore, do not object to authorization by the Department of the Army.

These comments do not satisfy your consultation responsibilities under Section 7 of the Endangered Species Act of 1973, as amended. If any activity(ies) "may effect" listed species and habitats under NOAA's purview, consultation should be initiated with our Protected Resources Division at the letterhead address.

Sincerely,

Pace Wilber (for)

Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 16, 2007

Mr. Stuart Applebaum
Chief, Planning Division
U.S. Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

Attn: Ms. Yvonne Haberer

Subject: EPA Review of COE's Revised DSEIS for Lake Okeechobee Regulation
Schedule Study (LORSS) Dated June 2007; Glades, Hendry, Martin,
Okeechobee and Palm Beach Counties, Florida; CEQ #20070267;
ERP #COE-E39051-FL

Dear Mr. Applebaum:

Pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) has reviewed the subject U.S. Army Corps of Engineers (COE) Revised Draft Supplemental Environmental Impact Statement (RDSEIS) for LORSS. EPA has recently provided comments on the COE's prior LORSS document (August 2006 DSEIS) in a letter dated September 28, 2006.

LORSS is a Comprehensive Everglades Restoration Plan (CERP) evaluation of the COE's proposed new water regulation schedule for water releases from Lake Okeechobee (Lake) relative to the existing Water Supply Environment (WSE) schedule. The modifications to the Lake release schedule are only operational, with no structural changes being offered. The proposed LORSS schedule is also only an interim plan until a re-evaluation is made in 2010 (when additional water storage areas are to be available). The DSEIS supplements the COE's 1999 WSE Final EIS (FEIS) and the present RDSEIS revises the DSEIS.

The RDSEIS re-examines the regulation schedule proposed in the DSEIS. During this LORSS re-evaluation process, EPA has participated in numerous interagency meetings and conference calls. The re-assessment has resulted in the COE's selection of a new preferred alternative (Alt. E over Alt. 1bS2-m in the DSEIS) which provides somewhat more favorable flows to the Caloosahatchee and St. Lucie Estuaries. Environmentally, we support these revisions to the regulation schedule, but defer to the COE regarding the revised schedule's safety effects on the integrity of the Lake's Herbert Hoover Dike (HHD) relative to the regulation of maximum Lake pool elevations.

Although Alternative E performs somewhat better for the estuaries, particularly in limiting high flows during wet and very wet years, high flows are still predicted to occur with attendant impacts to both estuaries. While these slight improvements are beneficial, it is clear that without the implementation of the planned additional water storage capacity for the Lake (e.g., reservoirs, stormwater treatment areas and other storage through CERP and Florida's Acceler8 Program), seasonal high and low flows from the Lake cannot be sufficiently regulated while also maintaining pool elevations at safe levels. As such, the ecological health of the lower river and estuarine oysters, seagrasses and salinities would continue to be impacted by too much or too little water. Accordingly, EPA supports the environmental benefits of Alternative E and encourages its rapid implementation. More importantly, we support the rapid implementation of additional storage for the Lake to measurably improve the flow regimes to both estuaries. We appreciate the State of Florida's initiative in providing fast track implementation for such storage through its Acceler8 Program.

From a NEPA process perspective, we appreciate the distribution of a revised LORSS document since a new preferred alternative (Alt. E) was selected. We are also pleased to note that an earlier version of Alternative E had already been presented in the DSEIS. The re-distribution of the DSEIS as the RDSEIS will allow additional public review of the modifications to Alternative E as the COE's new preferred alternative.

We have concentrated our NEPA review of the RDSEIS on the COE's responses to our comments on the previous DSEIS (Appendix H of the RDSEIS). We find that most of our comments were adequately addressed. EPA offers the following comments on selected responses in Appendix H:

* Response 2 (Water Quality) – Section 5.9 on water quality conditions should be further improved in the Final SEIS (FSEIS). Specifically, it should address Lake Total Maximum Daily Loads (TMDLs) and water quality conditions in the St. Lucie Estuary and the Caloosahatchee River. The current description is not representative.

* Response 7 (Nomenclature) – We appreciate the suggested simplification of the nomenclature for the alternatives.

* Response 8 (Cumulative Impacts & Affected Environment) – We note the improvements to Sections 6.14 and 6.21 in response to our comments.

* Response 12 (Caloosahatchee River Reach) – The Caloosahatchee River upstream of the S-79 structure (salinity control structure) is a valuable natural resource. It should be further described in the *Affected Environment* chapter of the FSEIS.

* Response 13 (St. Lucie Estuary) – The water quality portion of the *Affected Environment* chapter for the St. Lucie Basin (river & estuary) should be upgraded in the FSEIS. Such information was documented, for example, in the COE's Indian River South (IRL-South) EIS.

the FSEIS. Such information was documented, for example, in the COE's Indian River South (IRL-South) EIS.

EPA rates this RDSEIS as "EC-1" (Environmental Concerns with some additional information requested). While we defer to the COE regarding Lake elevations and HHD safety, we support Alternative E over 1bS2-m from an environmental perspective. Nevertheless, Alternative E (and other such alternatives) can only attempt to be the best operational compromise until the additional planned CERP and Acceler8 water storage infrastructure is constructed and becomes operational. Therefore, EPA bases its environmental concerns rating on the remaining water flow impacts on the lower river and estuarine impacts of flow releases from the Lake.

Should you have questions regarding our comments, please contact Chris Hoberg of my staff (404/562-9619 or hoberg.chris@epa.gov) for overall NEPA issues. For technical issues, please contact Eric Hughes of the South Florida Office in the EPA Water Management Division (904/232-2464 or hughes.eric@epa.gov) located at your COE Jacksonville District offices.

Sincerely,

A handwritten signature in black ink, appearing to read "Mueller", with a long, sweeping horizontal stroke extending to the right.

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

cc:

Doug Chairry – USFWS at Vero Beach, FL
Don Fox – FFWC at Okeechobee, FL
Greg Knecht – FDEP at Tallahassee, FL
Kim O'Dell – SFWMD at West Palm Beach, FL
Bob Pace – USFWS at Vero Beach, FL

TRIBAL GOVERNMENT



LEWIS, LONGMAN & WALKER, P.A.
ATTORNEYS AT LAW

August 20, 2007

Yvonne Harberer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Ms. Harberer:

On behalf of the Seminole Tribe of Florida ("STOF"), I am writing to provide comments on the Lake Okeechobee Regulation Schedule Study Supplemental Environmental Impact Statement ("LORSS SEIS") dated August 2006. Please accept this correspondence and include it as a part of the record, on the August 2007 tentatively selected plan ("TSP" or "new TSP") for the Revised Draft Supplemental Environmental Impact Statement ("SEIS") for the LORSS.

The U.S. Army Corps of Engineers ("Corps") has included more information regarding the unique aspects of the STOF's water rights. This TSP also includes more modeling specific to the STOF's Brighton and Big Cypress Reservations but we still have concerns with the effects of this schedule on water supply, including the Lower East Coast ("LEC") Service Areas because of the reliance this area has on Lake Okeechobee as a backup for water supply in times of drought. The STOF acknowledges that unless and until more water storage projects are constructed, it will be difficult to achieve a balanced Regulation Schedule. On September 25, 2006, the STOF met with representatives from the U. S. Army Corps of Engineers and the South Florida Water Management District ("SFWMD") to discuss its concerns. As a result of that meeting the Corps and the SFWMD are working together to provide the STOF with a set of mitigation measures to ensure continued deliveries of the STOF's Federal Water Rights Compact, Agreements and entitlements. This discussion is ongoing; however, the SEIS should reflect these impacts and the proposed mitigation to assure that the SFWMD and Corps obligations to the STOF will be met. Finally, this TSP is improved from the last TSP and also shows some measure of improvement over the current Water Supply and Environment ("WSE") Regulation Schedule in terms of performance for the Estuaries, but at the same time the schedule does show an increased impact to water supply.

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The STOF's review of the TSP indicates that it has mixed performance. This is particularly relevant to water supply. While the new TSP appears to manage Lake levels better on the high end, low end management continues to create more risk to the delivery of water and the STOF pursuant to the STOF's Federal Water Rights Compact, Agreements and entitlements. The SEIS portrays the proposed schedule as allowing the congressionally authorized water supply purposes of Lake Okeechobee to be met, but this does not appear to be accurate because the water supply project purposes are met less often due to implementation of the proposed alternative. This effect seems to be somewhat mitigated by the use of the 2006 Lake Okeechobee Water Shortage Management ("LOWSM") Plan, but these assumptions are a moving target because the Plan has not yet been adopted. The risks to water supply are demonstrated by the increase in Lower East Coast water restrictions, the frequency of Minimum Flow and Level exceedences and violations for Lake Okeechobee, and the need to operate forward pumps that may become permanent, to deliver water out of Lake Okeechobee when the levels are low.

For the purposes of these comments, the terms Tentatively Selected Plan ("TSP"), Alternative E and "T3" are the same alternative, which is the currently chosen plan presented in the SEIS. Our key points regarding the new TSP are as follows:

Generally, we agree with the following two concepts:

Section 1.4, Page 7: We continue to support the agency goal (or objective) of achieving "optimal" lake levels and reduction of high regulatory releases to the estuaries. This regulation schedule (or tentatively selected plan "TSP") appears to better meet those goals and objectives than the last version of the TSP released last year.

Section 2.1, Page 12: We agree that the Lake Okeechobee Regulation Schedule ("LORS") must balance the performance of multiple project purposes. However, there is still uncertainty on the part of the STOF on the performance of this TSP in relation to the STOF's water supply concerns due to the recent drought management experience.

1. Water Supply Impacts

There is significant impact to the STOF's interests if the current, adopted, water shortage triggers remain in place. The fact is, there is tremendous uncertainty regarding the impacts to water supply because the 2006 LOWSM, which somewhat mitigates that harm, has not been adopted by the SFWMD.

Section 6.12.1, Page 165: Demands not met in the Lake Okeechobee Service Area are slightly reduced over the current WSE schedule (from 4% No-Action to 3% for the TSP). These demands not met are significantly reduced when comparing the existing water shortage triggers ("WSTs") and the 2006 LOWSM. Demands not met in drought years show the same trend. Approximately one-fifth of the Brighton Reservation is included within the LOSA. During the CERP discussions and evaluations, the STOF agreed to a 3% 'demands not met' at Brighton

Reservation. Anything approaching over 7% 'demands not met' was considered unacceptable. It appears as though these commitments are not jeopardized by the TSP, but only because of the 2006 LOWSM assumption. This is yet to be adopted and so there is still uncertainty regarding the water shortage trigger line.

For the Big Cypress Reservation, there is a 3% increase in mean annual percent of demands not met over the Period of Record ("POR") for the TSP. These demands not met increase by almost 6% if the current WSTs remain in place. For the Brighton Reservation, demands not met decrease by approximately 1% for the TSP but there is an increase by 5.5% if the existing WSTs remain in place. It is clear that the water shortage line and drought management policy must be finalized before finalizing the SEIS to give the STOF better certainty regarding water supply impacts from this TSP.

As in our previous comments on the last TSP, the STOF's 1989 Agreement between the SFWMD and the STOF states that when Lake Istokpoga can no longer release water, but while canals are still at or near optimum levels, the SFWMD will deliver the STOF fifteen (15%) of the available water in the canals. It is likely this cannot be achieved without modifications to the G-207 and G-208 pumping facilities. Has there been any analysis on whether or not this can be achieved with the proposed schedule by the SFWMD? Until the necessary permitting, modifications and water use modeling for these pumps is complete we will not know whether the water supply impacts to the Reservations can be ameliorated.

Section 6.12.1, Page 165: Demands not met in the Lower East Coast ("LEC") Service Area show no change in the amount of water shortage cutbacks between the No-Action and the TSP, but those water shortages increase when the current WSTs are in place. This is of concern to the STOF; a reduction in water availability in the LEC Service Area can adversely affect the Hollywood Reservation because the STOF currently depends on other LEC Service providers for water supply.

Section 6.12.1, Page 167: Table 6-15 shows the "Value of Unmet Demands" for municipal and industrial water supply. Based upon human life and safety criteria, the TSP performs better over the existing WSE schedule, but does not perform as well as the previous TSP. This effect, exacerbated by potential changes in the 2006 LOWSM and SFWMD Water Shortage rules, creates a significant amount of uncertainty regarding the impact of the proposed TSP to water supply. These issues must be resolved by the SFWMD before the Final SEIS. *See also*, Table 3-2, Appendix D and Page E-41.

Appendix D, D-30: Table 3-1, "Recommendations of the Draft Lower East Coast Water Supply Master Plan ("LECWSP") should be updated to those Recommendations contained in the 2006 Update to the LEWSP, not the 2000 version.

Appendix E, Page E-33: "All alternatives demonstrate a trend to reduce lake stages by approximately 1.0 to 1.3' under normal to wet conditions." Extreme low stages are reduced from 9.46' in the No-Action alternative to 8.71' for the Tentatively Selected Plan. The STOF is

concerned that this stage is too low to allow the G-207 and G-208 structures to function. Again, this effect, exacerbated by potential changes in the 2006 LOWSM and SFWMD Water Shortage rules creates a significant amount of uncertainty regarding impact of the proposed TSP to water supply.

Appendix E, Page 43: The TSP shows one more month of cutbacks for LEC Service Areas 1 and 2. While this impact may not seem significant, due to the uncertainty surrounding 2006 LOWSM and the SFWMD's Drought policy and rules, "all alternatives showing a reduced availability of Lake Okeechobee water for Lower East Coast water supply needs during extreme dry conditions" is of concern. This reduction, coupled with the Regional Water Availability Rule's effect, creates more uncertainty for water supply. These issues must be addressed before finalizing the SEIS.

Appendix E, Page 44-45: Without 2006 LOWSM, cutbacks increase by 10 months for LEC Service Area 1 and 7 months for LEC Service Area 2. The SEIS states, "The final SFWMD efforts [to address modifications to same] are anticipated to be completed prior to implementation of any new regulatory schedule for Lake Okeechobee and the efforts will be able to consider the additional data provided from the 2007 LORSS SEIS Plan." This statement is somewhat unclear. Will the 2006 LOWSM be finalized prior to the adoption of the proposed TSP or not? The SEIS does not state that this will be publicly reviewed before the SEIS is finalized, please address any changes to 2006 LOWSM before the Final SEIS.

Section 6.19, Pages 170-171: The STOF recognizes the additional discussion contained within this SEIS relative to Native Americans. "Discussions" between the SFWMD and the STOF are ongoing in terms of mitigation measures such as the short-term and long-term measures to supply surface water to the STOF, consistent with the Water Rights Compact, but the SEIS contains no mention of the specifics of those contemplated infrastructure improvements. While those discussions are ongoing in a separate forum, it is difficult to ascertain what the effect will be on the STOF from the lower overall schedule. The STOF remains concerned about the impacts of this schedule on the deliveries consistent with the Water Rights Compact.

Unmet demand for the Brighton Reservation is decreased slightly over the current WSE schedule but unmet demand increases slightly from the previous TSP. Unmet demand for the Big Cypress Reservation increases by .5% for the TSP. The narrative discussion states that modifications and/or improvements to make deliveries to the STOF cannot be modeled due to its scale, so it is likely these impacts can be considered conservative estimates. Until there is agreement amongst all parties on what modifications/improvements will be constructed and when, the STOF remains concerned with the overall lowering of the LORS. *See also*, Page E-43.

Appendix E, Page E-15: While the STOF recognizes the incorporation of the pump operations at S-8 to provide additional water supply deliveries to the Big Cypress Seminole Indian Reservation, any additional assumptions such as these should be incorporated into the modeling. For instance, these considerations are also applicable to the G-404 structure.

2. Update Timelines

Until more storage (significant storage) is brought on line, only minor improvements in the Lake's schedule can be achieved. Mindful of that concept, Phase efforts must be scheduled and based on real timelines that are affected by the authorization and funding of Comprehensive Everglades Restoration Plan ("CERP") projects and Acceler8 projects. While Band 1 of the Master Implementation Sequencing Plan ("MISP") may provide the best information on the projected schedules of these projects, the SEIS should reflect the reality that a permanent schedule by 2010 may not be achievable. *See also*, "Proposed Operational Guidance", Page A-7.

3. Revision of Water Shortage Triggers and Modeling Assumptions.

The STOF understands the use of the 2006 Lake Okeechobee Water Shortage Management Plan ("LOWSM") and the other modeling run updates, as the best available information to incorporate into the SEIS. However; it is clear that the LOWSM and water shortage rules will be revisited and the effect on the TSP is unknown. Practical considerations suggest implementation will mean shortage declarations more often with a lower level of the Lake overall and an increasing developed/built environment.

Section 2.2, Page 16: The SEIS states, "Based on guidance from SFWMD, the 2006 draft LOWSM plan was not anticipated to undergo significant change prior to the approval by the SFWMD Governing Board later in 2007". The fact is 2006 LOWSM is still not adopted and the effect of the adopted current water shortage triggers on the current TSP is significant in terms of water supply impacts. *See also*, "Lake Okeechobee Management Bands, Water Shortage Management Band", Page A-8-9.

Section 2.3, Page 17: The 2006 alternatives were based on a 1.0' lowering of the Supply Side Management line ("SSM") while the 2006 LOWSM plan utilizes a lowering of the "trigger line" by 0.8'. There are significant differences in the performance of the alternatives due to the placement of this trigger line. While the 2006 LOWSM line is probably a more accurate depiction of where the ultimate trigger line may be, again, there is still some level of uncertainty surrounding the elevation of the line and what the effect may be, especially in the dry season. The Corps and SFWMD should use every effort to finalize the LOWSM plan, model its effects in the context of the TSP and incorporate those results into the Final SEIS.

Section 2.5, Page 21: This section should be updated based upon the fact that the temporary forward pumps were operated this year and the SFWMD is no longer "proposing" these structures. The inability of these pumps to offset impacts from the drought this year should be considered because the Lake went so low. The section should also describe the status of the permanent forward pumps and what changes, benefits, impacts or differences may occur due to their use in the context of the TSP. Will the permanent forward pumps perform better than the temporary ones in terms of water supply? Are the temporary pumps now considered a static structure until the permanent ones are constructed and operational?

Section 3.4, Page 80: The section on "Make-Up Releases" needs to be expanded. The section describes the operation as allowing for releases to be "made up" for water that could not be moved out of the Lake due to high water elevations in the Water Conservation Areas ("WCAs"), Stormwater Treatment Area ("STA") capacity limitations and conveyance limitations in the Everglades Agricultural Area ("EAA"). The targeted releases limited due to these constraints can later be "made up" from Lake Okeechobee "as soon as possible" and "may occur when Parts C and D do not allow releases or prescribe lower volume releases". These operations are unclear and vague and therefore, the true impact to water supply is unknown. The use of "Make-Up Releases" needs clarification. *See also*, Page A-12.

The Section also describes "additional operational flexibility" used to address circumstances not evaluated as part of the SEIS. This "additional operational flexibility" presumably replaces the previous "Non-Typical Operations" ("NTO") concept in the previous SEIS. The STOF understands the need for additional operational flexibility to address unforeseen conditions and this is important to allocate burdens and benefits to the natural system equitably. The Section concludes with a discussion on public notification of these operations. The STOF's concern is that all interested parties should be involved in implementing these procedures before they are "noticed" of the decision. Experience has shown with the previous TSP that public involvement in these types of decisions can result in a better effect for the environment overall. *See also*, Page A-13.

Section 4.3.2, Page 87: The STOF understands that hydrological model output assumes maximum practicable releases from Lake Okeechobee within each decision tree band; with consideration of downstream operational constraints and that these maximum releases are not always implemented. Essentially, this paints a "worst case scenario". It would be helpful for this section to be expanded to describe how conservative the performance evaluations have been in the past to understand the conservative nature of this effect.

In 1992, under Section VI.A. of the Water Rights Compact, an Agreement was signed between the SFWMD and the STOF Providing for Water Quality, Water Supply and Flood Control Plans for the Big Cypress Seminole Indian Reservation and the Brighton Seminole Indian Reservation (also known as Agreement No. C-4121) Implementing Section V.C. and VI.D. of the Water Rights Compact. This 1992 Agreement addresses the Compact rights to surface waters for the Brighton and Big Cypress Reservations. Additional canal and pump operational stipulations are included in the 1992 Agreement. Pursuant to that 1992 Agreement, the SFWMD must use its best efforts to operate the pumps at S-71 and S-72 on the C-41 and C-40 canals when the level of Lake Okeechobee falls below ten (10) feet NGVD, as long as mechanically possible without damaging the pumps, in order to provide the minimum amounts of water identified in Table 7 of the Agreement. Increased Minimum Flow and Level exceedences and violations indicate that it will be more difficult for the SFWMD to meet this obligation. This has the added effect of potentially triggering navigational criteria to maintain access for other users. Please provide an analysis of the impact of those lowered Lake levels on the SFWMD's ability to meet this obligation. Specifically, please provide the percentage of demands not met pursuant to this criterion.

Additionally, analyzing the current TSP in the context of current water shortage triggers (“WST”) against 2006 LOWSM for performance is helpful to understand the importance that these triggers have on environmental and water supply performance. Without changes to the 2006 LOWSM, there are tremendous impacts to water supply with this TSP.

4. Clarify Use of Additional Storage Lands

While the STOF understands that the goal is to first make releases to additional storage areas to minimize harmful flows, the specifics of the amount of land and the decision process to utilize those lands is unclear. The Corps should work with the SFWMD to address this decision process and clearly articulate what the benefits will be before finalizing the Final SEIS.

Section 4.5, Pages 95-99: This Section describes the use of SFWMD lands for additional water storage as a precursor to higher volume discharges thus minimizing impacts to downstream receiving waters. As stated, the STOF understands that this is one of the “additional considerations” that exists which can further improve performance of the TSP, this is a non-Federal action, and that the modeling of the alternatives does not consider these lands or operations. While many of the following questions should be answered by the SFWMD, it is important that these operations are more clearly articulated in this SEIS process so that stakeholders can formulate a better opinion as to the importance of this additional storage to success of this TSP. From a modeling perspective many of the assumptions make sense such as the lands are actually available with all infrastructure, local basin runoff considerations, and the storage is utilized before releases are made. Given the STOF’s land ownership and Reservation holdings, water storage on these lands can directly impact the STOF’s interests. The use and operations of these lands could create a benefit or impact to water supply and right now, that is unclear. Remaining questions persist, for instance:

- What lands (and how much) have been identified/committed for this storage?
- Where are these lands located?
- How much infrastructure and/or expense is necessary to make these lands available for storage?
- How soon can the storage be brought on line as modeled?
- Is the SFWMD going to use 150,000 acre-feet of storage, 450,000 acre-feet of storage or somewhere in between?
- Do these lands now have an associated water use and is there an estimated deficit or expansion of this quantity when storage is implemented in the future?

Further analysis on the optimal operations (and the timing or use of that storage) for these additional water storage area is necessary to determine when that storage should be utilized and what the water quality impacts may be; these are simply to be “defined in the future”.

5. Commit to Needed Infrastructure

Yvonne Harberer
U.S. Army Corps of Engineers
August 20, 2007
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Holding Lake elevations lower requires infrastructure, such as permanent forward pumps and the structures needed to utilize additional water storage lands, to supply water for people and the environment. The permanent infrastructure to do that must be identified and constructed.

With the other problems of CERP water storage project delays, the delay in this TSP and potential revisions to the SFWMD water shortage triggers, it is clear that the "mitigation strategies", such as water storage on additional SFWMD lands, become all the more important. It is critical that the specifics of these mitigation strategies be addressed now before the SEIS is finalized and the new TSP is implemented. Clarifying and finalizing the SFWMD water shortage triggers and policy will also be central in addressing mitigation strategies. Based on the comments contained herein, and the high level of uncertainty regarding impacts to water supply, the STOF cannot support the Draft SEIS in its current form. We appreciate the opportunity to provide these comments to you and we look forward to working with you on improving the final draft of the LORSS SEIS. For any additional questions you might have, please do not hesitate to call Michelle Diffenderfer / Erin Deady (at 561.640.0820) or me at (954.965.4380).

Sincerely,



Michelle W. Diffenderfer
Erin L. Deady

c: Craig Tepper – Seminole tribe of Florida
Cherise Maples – Seminole Tribe of Florida
Pete Milam – U. S. Army Corps of Engineers
Michelle Diffenderfer – Lewis, Longman & Walker, P.A.
Elizabeth Ross – South Florida Water Management District

LEHTINEN VARGAS & RIEDI

ATTORNEYS AT LAW
A PROFESSIONAL ASSOCIATION

August 20, 2007

Colonel Paul Grosskruger
c/o Yvonne L. Haberer
U.S. Army Corps of Engineers
701 San Marco Blvd.
Jacksonville, District 32207

Via Fax and U.S. Mail; E-Mail; and Express Mail

**Re: MICCOSUKEE TRIBE OF INDIANS COMMENTS ON THE REVISED DRAFT
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE LAKE
OKEECHOBEE REGULATION SCHEDULE STUDY DATED JUNE 2007.**

Attention: Yvonne L. Haberer at LORSS@saj02.usace.army.mil

Dear Colonel Grosskruger,

I. OVERVIEW

A. The Revised Draft SEIS Still Fails to Comply with NEPA and other Federal Law.

The Miccosukee Tribe of Indians hereby files its comments on the U.S. Army Corps of Engineers (Corps) Revised Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule Study (LORSS) dated June 2007. It appears it was necessary for the Corps to prepare this Revised Draft, because the Tribe pointed out the modeling error that had Lake Okeechobee water going to the L-8 and into STA 1 East, which did not have the capacity to handle it. Although the new modeling used in the Revised Draft SEIS claims to show an improvement for Alternative E over the previous lism-2, there are numerous problems with the revised document that lead the Tribe to believe that the Corps has once again failed to reveal the full impacts of the Preferred Alternative. The Tribe continues to contend that this excess Lake water (and its impacts) has to go somewhere. The Revised Draft SEIS still fails to clearly identify where the excess water from lowering Lake Okeechobee by approximately one foot will be released into the system, and what the impacts of this excess water will be.

The Revised Draft SEIS states that the Agency Goal or objective was "to implement a new regulation schedule that would improve the health of Lake Okeechobee and the St. Lucie and Caloosahatchee estuaries, while ensuring public health and safety, and with minimal or no impact

to the competing project (lake) purposes.” SEIS at 7. Nowhere in this goal does the Corps state that it wants to improve the health of the Everglades even though a multi-billion dollar restoration project is being conducted to restore it. The Tribe submitted extensive comments about the necessity to protect, and minimize impacts, on the Everglades but none were incorporated into the Revised Draft SEIS. *See*, Exhibit A.

A review of the Revised Draft SEIS, and the results from the new model, shows that the Corps has not accomplished its goals. Under Alternative E (TSP 3 is the modeling name) there will be more damaging flows to the estuaries, more droughts, and more weeks of high water in WCA 3A. Additionally, the Revised Draft still fails to contain the engineering analysis requested by the Tribe to justify that a 17.25 lake level is necessary to ensure the integrity of the dike. As noted in the Tribe’s previous comments, a letter from Secretary of the Army Woodley to Governor Bush says lake levels must be kept below 18.5 feet to ensure integrity. It is still unclear how the below 18.5 ft. turned into 17.25 ft. Moreover, at the August 7, 2007, public meeting held by the Corps, a slide presentation showed that even with a 17.25 lake level, there will continue to be an 18% risk for the people living near the Herbert Hoover Dike. Yet despite this high risk even with the Lake lower, the Corps failed to analyze a reasonable and prudent alternatives that included evacuation of the area to decrease the risk to the population.

At the Corps’ August 2, 2007 public meeting, the Miccosukee Tribe expressed dismay that the Revised Draft failed to even mention the federally recognized Tribe, or any impacts to its perpetual lease and federal reservation lands in WCA 3A, under the section on “Native Americans.” *See*, SEIS at Section 6.19 at 171-172. The Tribe both attended the public meeting on the prior Draft SEIS and submitted extensive comments (Exhibit A) that discussed the impacts that the revised regulation schedule would have on the Tribe and its lands. Yet, there was no mention in the Revised Draft that the Tribe had expressed concerns. The section does not mention the Tribe’s environmental concerns. Nor does it mention the Tribe’s concern that the Corps has not shown the same concern for the health and safety of Miccosukee Tribal members, who have been subjected to precarious conditions as a result of the Corps’ operation of its Interim Operational Plan (“IOP”), which has no cap on how high water can get in WCA 3A.

The Tribe agrees with the Corps that protecting health and safety is paramount. Yet, the Corps continues to refuse to reevaluate whether the S-12 gates should be open as part of the LORSS to make certain that its attempt to protect our neighbors to the north does not imperil members of the Miccosukee Tribe. As stated in previous comments, and at the August 2nd public meeting, reevaluating the opening these S-12s at the bottom of the system, and expediting the implementation of the Modified Water Deliveries (Mod Waters) Project, would help to alleviate the high water conditions that adversely impact Tribal Everglades and Lake Okeechobee. Even if changes to the Lake Okeechobee regulation schedule are necessary to ensure the integrity of the dike, this does not absolve the Corps of its duty under NEPA to divulge all impacts on the human environment. The Revised Draft SEIS is required to be a full disclosure document and to mitigate the impacts to the environment. Yet, the revised document continues to fail to report all the excess water, and the concentrations and loads of excess phosphorus, that will impact other areas as a result of the

Preferred Alternative E. The Document also fails to adequately assess the impacts on water supply, the analysis of which is laden with uncertainty.

Most important to the Tribe, the Revised Draft SEIS continues to fail to adequately assess the cumulative impacts caused to Tribal Everglades in Water Conservation Area 3A ("WCA 3A"), which is also the critical habitat for the endangered Snail Kite. The Snail Kite has declined an alarming 50% under the Corps' ISOP and IOP operations in the southern part of the system. Indeed, the LORS document inaccurately reports the current conditions in WCA 3A. The Revised Draft incorrectly states, "This region of the Everglades appears to have changed little since the 1940's." SEIS at 115. Nothing could be further from reality. Other Corps' documents show that this vast area of sawgrass Everglades, which the government promised would be preserved in its natural state in perpetuity for the benefit and use of the Tribe, has been severely degraded under IOP operations. The Tribe pointed out in its prior comments that the Draft IOP SEIS discussed the degradation of WCA 3A. *See*, Exhibit A. These comments were ignored by the drafters of the LORS document. Since those comments, the Final IOP SEIS has been issued. It states, "The principal concern is that the habitat quality, and thus the carrying capacity of, WCA 3A is already seriously degraded." (Exhibit B, IOP Final SEIS at 79.) "Habitat quality in WCA 3A is changing progressively and dramatically to less desirable habitat in this area, and this conversion is rapid, with changes even after a year." *Id.* There is also very bad news for the endangered Snail Kite. The Final SEIS states that, "The snail kite population in Florida progressively and dramatically decreased between 1999 and 2002." *Id.* at 77. "Since 2002, kite production in WCA 3A has dramatically dropped, having produced no kites in 2005." *Id.* at 79. Alternative E will add insult to injury by increasing the number of weeks water levels in WCA 3A will exceed 2.5 feet. SEIS at 141. The Tribe is concerned that due to the use of a new model with great uncertainty attached to it, the Corps may not have properly reported the increased number of weeks of high water. This is especially true because the Corps apparently did not analyze the increased number of weeks of high water in Indicator Region 19.

Despite being fully aware that high water is damaging WCA 3A under IOP, the Corps' SEIS on the LORS fails to analyze the cumulative impacts of both of these regulation schedules, as well as the prior ISOP and deviations. It fails to do so even though modeling shows that Alternative E will increase the number of weeks of water above 2.5 feet in WCA 3A above the No Action Alternative. The tree island PM graph at page 141 shows that the No Action Alternative has 395 weeks above 2.5 feet while Alternative E is 402 weeks. The Tribe disagrees with the Corps that this increase is insignificant, especially in light of the fact that restoration is supposed to moving the Everglades in the opposite direction. SEIS at 141. The Tribe is concerned that the Corps did not report any results from Indicator Region 19. Also, it is impossible to compare the current model results with the prior modeling results for IOP that showed 439 weeks in indicator region 14, or even to compare them with modeling for the prior TSP that showed 486 weeks. Nor does the document explain why the results based on new model show a much lower (402 weeks) for Alternative E and even a lower number of weeks for the No Action Alternative. It appears to the Tribe that the Corps has used "modeling magic" to camouflage the high water impacts to tree islands in WCA 3A.

As to the current alarming plight of the Snail Kite in WCA 3A, which was ignored in the

Revised Draft, the Final IOP SEIS states that Dr. Wiley Kitchens believes that “this trend of lowered reproduction is a cause of concern regarding the sustainability of the [Snail Kite] population.” *Id.* at 78. Yet, the LORSS Revised Draft SEIS never looks at the combined impacts of IOP and the Proposed Alternative E on the Snail Kite and its critical habitat in WCA 3A. Indeed, the document fails to even acknowledge that the Snail Kite has critical habitat on Tribal Everglades in WCA 3A. SEIS at 115-118 and 143-144. The Tribe attached the 2005 Snail Kite Demography Annual Report prepared for the FWS and the Corps to its prior comments. *See*, Exhibit A at Attachment C. This report shows that researchers are very concerned about the alarmingly high water levels that have existed in WCA 3A. *Id.* at p. 19. The Revised Draft SEIS fails to analyze the impacts that the increased weeks of sustained high water caused by Alternative E, when coupled with IOP, will have on WCA 3A and the Snail Kite in Indicator Region 19.

In sum, the Revised Draft SEIS on the Lake Okeechobee Regulation Study continues to fail to comply with the National Environmental Policy Act (“NEPA”), the Administrative Procedures Act (“APA”), the Endangered Species Act (ESA), and the Corps’ Trust responsibility to the Tribe, including their responsibility to protect the Tribe’s Reservation and leased lands in WCA-3A. The Revised Draft SEIS is highly disorganized, unreadable, and forces the public to access complicated web sites to attempt to review all modeling results. The optimistic statements of “no harm” in the document do not appear to be supported by the modeling. While Alternative E appears to dump less water than the prior TSP into WCA 3A due to a volume constraint on STA 3/4, it still produces more weeks of high water there that have not been analyzed in the document. While, the Revised Draft SEIS now contains some modeling results in Appendix E, the results are based on a new model which does not allow the public to compare the results in the initial draft with the revised document. There also appear to be uncertainties with this new model that are not disclosed in the document.

Finally, it appears that the Lake Okeechobee Preferred Alternative E (TSP 3) was devised and adopted “behind closed doors” by an advisory group that failed to comply with the Federal Advisory Committee Act (“FACA”). SEIS at 13. Although the Corps claims it is seeking public comment, the reality is that Alternative E was screened and recommended by an advisory group and the Corps will merely rubber stamp a pre-ordained decision.

II. SPECIFIC COMMENTS ON THE REVISED DRAFT SEIS AND THE PROCESS

A. THE MICCOUKEES ARE “NATIVE AMERICANS” AND THE PREFERRED ALTERNATIVE WILL ADVERSELY IMPACT TRIBAL NATURAL RESOURCES

The Tribe was especially disturbed that Section 6.19 on Native Americans in the Revised Draft SEIS failed to even mention the Miccosukee Tribe. SEIS at 170-172. It is incomprehensible when there are only two federally recognized Tribes in Florida that only one, the Seminole Tribe, would be discussed. Ironically, in response to the Tribe’s concerns raised in its initial comments, the Corps says, “Refer to revised SEIS for expanded discussion of Native American Tribes.” Appendix H, Micc-7 at 28. Yet, as stated above, a review of this expanded section does not even mention that the Miccosukee Tribe exists. This is especially disconcerting in light of the fact that the Tribe had attended a public meeting, and submitted extensive comments (Exhibit A) about the

impacts of the prior proposed TSP, none of which were incorporated in the Revised Draft.

While, the new modeling used in the Revised Tribe claims that there will no longer be an increase of 47 weeks of sustained high water in WCA 3A, this is impossible to verify because the new model results can not be compared with the previous model results. In any event, the Revised Draft SEIS continues to show that Alternative E will increase the number of weeks of sustained high water seven weeks above the No Action Alternative. This increase in the weeks of sustained high water will exacerbate the ongoing tree island loss and the degradation of the Snail Kite critical habitat on the Tribal Everglades in WCA 3A. The Corps failed to analyze the impacts to the Snail Kite habitat in WCA 3A. Instead, the Revised Draft SEIS claims, without analysis, that the impact to tree islands will be “minor.” It is disconcerting to the Tribe that the Corps continues to break the promise made under the Indian Land Claims Settlement Act to preserve WCA 3A in its natural state in perpetuity for the benefit and use of the Tribe.

B. THE WATER QUALITY ANALYSIS IS NON-EXISTENT IN THE DRAFT SEIS

The Revised Draft SEIS continues to contain no water quality analysis to support its conclusion that “there are very minor adverse effects from any alternatives to the receiving marsh in the WCAs.” SEIS at 169. Indeed, the document itself admits that “only hydrologic conditions, and not water quality, were evaluated.” *Id.* at 89. The document contains absolutely no analysis of the amounts of phosphorous in the increased water that will be going to the estuaries and the Everglades as a result of lowering the Lake approximately one foot. Although it states there is a constraint on the volume of water that can go through STA 3/4, nowhere does the document estimate the phosphorus (concentration or load) entering, and leaving, this STA as a result of implementation of the Preferred Alternative E. This is especially important in light of the Corps’ admission that in Lake total phosphorous concentrations have doubled over the last 50 years; that from 1995-2000 average total phosphorus was 100 ppb; and that total phosphorus concentrations have climbed to levels four to five times higher than normal as a result of the 2004 hurricanes. SEIS at 131. The Revised Draft does not, and the Final SEIS must, specifically identify the load and concentration of phosphorus and other pollutants expected to be released to various destinations under any revised Lake Okeechobee regulation schedule. This would include any additional release of water containing phosphorus and other pollutants into the Water Conservation Areas.

The Revised Draft fails to analyze the impact of the Lake releases on the Settlement Agreement requirements in Case No. 88-1886-Civ-Moreno in terms of phosphorus concentrations and load. Nor does it analyze the water quality impact of bypass around STA 3/4 into WCA 3A, which the document contemplates will occur. SEIS at E-30. Nor does it address whether Alternative E, which will increase droughts and decrease the water supply, will result in more backpumping into Lake Okeechobee. Backpumping has had severe adverse water quality impacts on the Lake. The increased threat of backpumping should be addressed in light of the recent federal court decision of Judge Altonaga in Case No: 02-80309-Altonaga/Turnoff. Judge Altonaga found in favor of the Tribe that the discharge of pollutants into the Lake from the S-2, S-3 and S-4 structures requires a National System Elimination System (“NPDES”) permit under the Clean Water Act.

C. THE REVISED DRAFT SEIS FAILS TO CONTAIN A BIOLOGICAL OPINION

The Revised Draft SEIS continues to fail to contain a biological opinion by the Fish and Wildlife Service that analyzes, among other things, the combined impact that IOP and the Preferred Alternative will have on the endangered Snail Kite and its critical habitat in WCA 3A. The Tribe contends that the Corps is required to consult with FWS under Section 7 of the ESA on combined impacts that IOP and the Alternative E, which shows more weeks of sustained high water in Snail Kite critical habitat, will have. There is no such analysis in the Revised Draft or the FWS Coordination Act Report (CAR). In fact, the FWS CAR does not even analyze the impacts of Alternative E on WCA 3A. The FWS letter states, “The Service looked closely at performance measures in the Water Conservation Areas and Everglades National Park. The modeling suggests that the changes are so small as to approach insignificance, often around a one percent difference. We believe this is partly due to the lack of sensitivity and accuracy of the model in detecting small changes...” FWS CAR at ii. True to its word, FWS conducted no analysis of impacts on the WCAs opting to “concentrate our review on the effects of the project on the estuaries and lake ecology.” FWS CAR at 41. The FWS CAR states that the District conducted its own review of the project to which FWS referred in their analysis during the PDT discussion of Alternatives, paying particular attention to the project’s effects on the snail kite habitat. *Id.* However, nowhere in the Corps document is this “District” review presented, so that the public can assess its accuracy. The failure of the FWS to address the impacts to WCA 3A does not absolve the Corps of its duty to conduct its own analysis. The dismal failure to address impacts on the Snail Kite, and its critical habitat in WCA 3A, is totally inappropriate and does not meet the requirements of either NEPA or the ESA.

The Tribe provided the Corps with the 2003 Report on the Snail Kite that shows there has been an alarming 50% decline in the Snail Kite population, and a 2005 Snail Kite report shows no young fledged out of WCA 3A last year. Exhibit A. The Corps’ Revised Draft SEIS should have included a biological opinion that analyzes the combined impact of IOP on Alternative E on the Snail Kite and its critical habitat in WCA 3A but did not. Attachment C at p. 10. The faulty FWS CAR, which failed to even conduct any analysis at all of the impact on the WCAs, can not substitute for the Corps’s duties under NEPA and the ESA. As stated previously, the Final SEIS on IOP admits: “The principal concern is that the habitat quality, and thus the carrying capacity of, WCA 3A is already seriously degraded,” and that “Habitat quality in WCA 3A is changing progressively and dramatically to less desirable habitat in this area, and this conversion is rapid, with changes even after a year.” Exhibit B at 79. “The Snail Kite population in Florida progressively and dramatically decreased between 1999 and 2002.” *Id.* at 77. “Since 2002, kite production in WCA 3A has dramatically dropped, having produced no kites in 2005.”*Id.* at 79. It further admits that Dr. Wiley Kitchens believes that “this trend of lowered reproduction is a cause of concern regarding the sustainability of the population.” *Id.* at 78.

In light of the public health and safety concerns about the Herbert Hoover Dike, and the concerns about the alarming decline in the Snail Kite and its critical habitat in WCA 3A, the Corps should have reevaluated closing the S-12 gates but did not. This is especially true in light of information that closing the S-12 gates has not helped Sparrow Subpopulation A. Attachment C.

Additionally, data in the Final SEIS on IOP shows that Sparrow Subpopulation A has declined under 10 years of gate closings. Attachment D. *Id.* In fact, the sub-population A estimates show that the Corps' actions under ISOP and IOP have actually caused it to decline. *Id.* Yet, the Corps continues to refuse to reinitiate consultation with FWS on the LORS to discuss whether the S-12 gate closings should be discontinued in light of the drastic decline in the Snail Kite and its critical habitat, and the public safety issues involved with the integrity of the Herbert Hoover Dike.

D. THE REVISED DRAFT SEIS FAILS TO COMPLY WITH NEPA

1. The Revised Draft SEIS Rubber Stamps the Preferred Alternative E.

The Preferred Alternative E is a recommendation to a federal agency that was screened and developed in closed door meetings of an advisory group that did not comply with FACA. A review of the Revised Draft SEIS shows that the group relied on information, including modeling results, that are not in the document itself. While the Revised Draft now contains some analysis of modeling results for the Water Conservation Areas in Appendix E, it does not contain modeling for Snail Kite Indicator Region 19. Additionally, the model has changed making it impossible to compare the modeling results in the prior LORSS Draft SEIS with those in the Revised Draft SEIS. Indeed, nowhere in the document is the significance of this modeling change explained. Perhaps the Corps believes informing the public of these significant changes is unnecessary, since the Revised Draft contains a preordained decision that was made in a process that was not conducted in public and which the Corps will simply rubber stamp.

The Corps failed to conduct meaningful, pre-decisional consultation with the Tribe on the modeling changes in the Revised Draft SEIS, as required by its Trust Responsibility. Instead, the Corps has used an advisory committee to develop and recommend Alternative E, which will increase the number of weeks of sustained high water in WCA 3A. While the Corps claims the increase in WCA 3A will be minor (an increase of 5 weeks), the Tribe has no way of assessing the accuracy of the results that were conducted with a new model. The use of the new model appears to have dramatically lowered (at least on paper) the number of weeks of sustained high water for all the alternatives, including the No Action Alternative. The question is how did the new model results decrease the number of weeks of water over 2.5 feet that the Corps predicted under IOP? This modeling discrepancy is not explained. Additionally, the selection of the Preferred Alternative E by an advisory committee that did not hold public meetings does not comply with FACA or the Corps' Trust Responsibility to the Tribe.

2. The No Action Alternative in the Revised Draft SEIS Is Improper.

According to the Revised Draft SEIS, the No Action Alternative is the WSE but with temporary forward pumps that will not even be in place and operated until late 2007. SEIS at 21. It is improper to use an alternative that does not exist in its present form as the No Action Alternative. The WSE currently in effect, which does not include these pumps, should be the No Action Alternative against which impacts are assessed. NEPA requires that the No Action

Alternative be the last Water Control Plan and regulation schedule for Lake Okeechobee that has gone through the reviews required by law.

3. The Cumulative Impact Analysis in the Revised Draft SEIS is Woefully Inadequate.

NEPA requires that federal agencies consider “cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts” should be discussed in the same impact statement. 40 C.F.R. § 1508.25. In addition, 40 C.F.R. §1508.7 defines a “cumulative impact” as the “impact on the environment which results from the incremental impact of the action when added to other past, present and other reasonable foreseeable future action” and thus requires analysis. The Corps’ Revised Draft SEIS at Section 6.19, while now listing some actions, still fails to contain an adequate cumulative impact analysis that reviews the combined impact of the past ten years of water management operations for the sparrow have had on WCA 3A and the human environment coupled with Alternative E. The Corps’ non-responsive comment that ISOP and IOP are separate from the LORS is totally incorrect in the context of NEPA, which requires these past and present actions be part of the cumulative impact analysis. Appendix H, MIC 10 at 29. Merely mentioning that IOP is being implemented, is not an analysis. The Corps also failed to analyze the impacts of future actions, such as the FWS Proposed Rule on the Cape Sable seaside sparrow, which will prevent future restoration projects from being implemented if adopted. The unnatural hydrological water management objective it contains will keep water in the Everglades and the Lake unnaturally high and continue high discharges to the Everglades. NEPA requires the Corps to assess the cumulative impacts of IOP and the FWS Proposed rule coupled with Alternative E.

4. There is Still No Health and Safety Analysis of High Water in WCA 3A.

The Revised Draft SEIS continues to be silent on the public health and safety aspects that having no cap on how high the water can get in WCA 3A poses for the Tribe. In the Final EA on the 1998 so-called emergency deviation for the Sparrow, the Corps admitted that there are design integrity concerns for WCA 3A. Exhibit A at Attachment D. While the Corps has expressed concerns about the integrity of the dike surrounding Lake Okeechobee and high water conditions, it has not expressed any concern whatsoever, nor analyzed, the impact that high water in WCA 3A could have on the members of the Miccosukee Tribe who live in the area of the levee. Page C-7 of the 1998 Final EA discusses the impact that the continued closing of the gates and the backing up of water has on both Lake Okeechobee and the WCAs:

[t]he continued deviation from established water regulation schedules in order to minimize discharges south would increasingly tax the operation and capability of the system, especially for the upcoming wet season. Target elevations for the beginning of the wet season would probably be exceeded, even further reducing the system's ability to respond to events. There is an issue of increased risk to human safety due to high water levels in both Lake Okeechobee and the WCAs. Higher water levels during the wet season reduce the flood control capacity of the system.

The 1998 Final EA also states, under section 4.07, the consequences of extending the emergency that:

Observations of the 1994-95 high water events have shown that if high water levels are maintained through the dry season, then water levels in WCA-3A remain excessively high during the following season, thereby reducing the overall storage capacity of the WCAs. Not only would this situation have exacerbated recent damage to the native upland communities in WCA-3A, but it could have also set the stage for reenactment of the current emergency next year.

The Revised Draft SEIS for Lake Okeechobee fails to address the issue of whether the resulting reduction in storage in the WCAs caused by the IOP exacerbates the impacts that hurricanes and storms have had, and will continue to have, on the environment and urban and agricultural interests. The Corps' non-responsive comment in Section H, which merely refers the Tribe to additional modeling, is not an analysis of the health and safety impacts to the Tribe of having no cap on how high the water can get in WCA 3A. It is disconcerting that the Corps continues to fail address this health and safety issue, as the Tribe has faced an imminent threat in the past when a hurricane threatened and the water threatened to overflow the structure.

5. The New Modeling Results Still Show Adverse Impacts on WCA 3A.

The modeling posted on the Corps website for the TSP in the previous Draft SEIS showed 47 more weeks of sustained high water in WCA over IOP. *See*, Exhibit A, Attachment B. The new results, which were conducted with an entirely new model that does not allow the Tribe to compare previous results with the current results, now shows 7 weeks above 2.5 feet for Alternative E. There is still no hydrograph for WCA 3A that compares the number of high water weeks in indicator Regions 14 and 19 under IOP with that under Alternative E. It is vital that the increased number of weeks of sustained high water in these indicator regions in WCA 3A, and the impacts on the Snail Kite and its critical habitat there, are divulged. The Final SEIS should contain model comparisons between IOP, the No Action Alternative, Alternative E, and NSM, so that the Tribe can comment on the differences.

The statement in the Revised Draft SEIS that “although the number of weeks varies,” that “none of these differences is significant” because they do not exceed an overall average of 17 weeks per year, is absurd. The IOP SEIS states that one of the “most significant causes of habitat degradation in WCA 3A are flood damage to tree islands in the northeastern and southwestern part of the WCA.” *See*, Exhibit A, Attachment A at p. 61. The fact is that Alternative E will increase the number of weeks of high water in an already drowning WCA 3A. SEIS at 141. It is improper to compare botulism with the plague when assessing high water impacts on tree islands and endangered species, such as the Snail Kite. The modeling clearly shows that the high water conditions in WCA 3A will be exacerbated, along with the impacts on tree islands and the endangered Snail Kite's critical habitat. Interestingly, at the same time the modeling shows an increase in the number of weeks of high water, it also shows that the number of weeks of peat dryout is increased from 4417 under the No Action Alternative to 4470 under Alternative E. SEIS at 141.

This apparent contradiction in the increase in both the number of high water weeks, and dryout events, in WCA 3A is not explained in the document.

6. Revised SEIS Fails to Adequately Assess Impact on Snail Kite and Critical Habitat.

Dr. Wiley Kitchens has stated that the sustainability of the Snail Kite population is threatened. *See*, Exhibit A, Attachment A at 68-69 and Attachment C. The Tribe advised the Corps of the alarming decline in the Snail Kite population, and its critical habitat in WCA 3A, in its comments on the SEIS. The Corps failed to incorporate any of this information in the Revised Draft. Instead, the Corps makes the inaccurate statement that the decline in the Snail Kite was based solely on a regional drought. SEIS at 117. A review of the Snail Kite reports shows that the IOP regulation schedule has also adversely impacted the Kite and a review of Exhibit C shows that its habitat is in severe decline. Perhaps if the Corps had conducted analysis whatsoever of the impacts of Alternative E on the Snail Kite critical habitat in WCA 3A, as required under NEPA and the ESA, it would know this. It did not. Nor does the Revised Draft contain the required FWS Biological Opinion. Moreover, it does not contain a baseline study and cumulative impacts analysis of the impacts that eight years of water management actions for the Sparrow coupled with Alternative E will have on the Snail Kite and its designated critical habitat in WCA 3A. Indeed, the Revised Draft does not even acknowledge that the Snail Kite has critical habitat on Tribal Everglades in WCA 3A. SEIS at 117. There is absolutely no analysis of whether Alternative E will cause higher water conditions that may cause the FWS Incidental Take Statement (“ITS”) under IOP not to be met.

The Tribe provided the Corps with a hydrological graph of WCA 3A for 2005, that showed water was very high the year no young fledged out of WCA 3A. *See*, Exhibit A, Attachment E. The Tribe also provided the Corps with a report that shows Snail Kite researchers are concerned about the alarmingly high water levels in WCA 3A. *Id.* at Attachment C at p. 19. The Corps can no longer evade the fact that sustained high water in WCA 3A has caused, and will continue to cause, adverse impacts to the Snail Kite and its designated on Tribal Everglades in WCA 3A. The Corps’ own 2006 Final SEIS on IOP admits, “The principal concern is that the habitat quality, and thus the carrying capacity of, WCA 3A is already seriously degraded.” Exhibit B at 79. “Habitat quality in WCA 3A is changing progressively and dramatically to less desirable habitat in this area, and this conversion is rapid, with changes even after a year.” *Id.* “The snail kite population in Florida progressively and dramatically decreased between 1999 and 2002.” *Id.* at 77. “Since 2002, kite production in WCA 3A has dramatically dropped, having produced no kites in 2005.” *Id.* at 79. Indeed, the Draft SEIS admits that Dr. Wiley Kitchens believes that “this trend of lowered reproduction is a cause of concern regarding the sustainability of the population.” *Id.* at 78. *See also*, 2005 Snail Kite Report Exhibit A at Attachment C.

The 2005 Snail Kite Report is proof that IOP has caused an alarming decline in the Snail Kite population and has devastated its critical habitat in WCA 3A. More new information was presented to the Corps and FWS at an Avian Forum on August 14, 2007, in which the Snail Kite was essentially described as in need of “life support.” *See also*, Exhibit C (April 6, 2006, e-mail from Dr. Wiley Kitchens to Jon Moulding of the Corps.) Thus, the Corps must reinitiate consultation with the

FWS to see whether the additional weeks of sustained high water caused by Alternative E will result in jeopardy to the Snail Kite and adverse modification to its critical habitat. The Corps has the duty to show that it will not violate the ESA. The Corps must ask FWS to initiate Section 7 consultation on the cumulative impacts that IOP and the Lake Okeechobee Preferred Alternative E will have on the Snail Kite and its critical habitat in WCA 3A, as well as other endangered species. The Corps must also conduct a review of whether the Alternative E will comply with the Incidental Take Statement on the Snail Kite contained in the IOP SEIS.

7. The Revised Draft SEIS Fails to Take the “Hard Look” Required by NEPA.

The disparity between the modeling results and the statements in the Draft SEIS on minor impacts on WCA 3A and the Snail Kite is evidence that the requisite “hard look” required by NEPA has not been taken. It is clear that the Final SEIS will require further information. The Tribe has demonstrated that there is ample evidence in the record that harm to WCA 3A has occurred under IOP and will be exacerbated by the LORS Preferred Alternative. The Corps must take the “hard look” required under NEPA of the damage that Alternative E will cause. This same failure to take a “hard look” at harm also applies to the St. Lucie and Caloosahatchee River estuaries.

8. The Revised Draft SEIS Must Meaningfully Analyze Flooding Impacts.

The Revised Draft SEIS fails to adequately analyze the adverse impacts that increasing the releases to other areas under Alternative E will have on flood risk. Lowering of the Lake under Alternative E will cause more water to be released for longer periods of time to certain areas, such as the Lake Worth estuary. Neither Section 4.3, 5.7 or 6.13 on Flood Protection discusses the impact that these releases will have on flood control in the areas where the excess water is released. SEIS at 130 and 168. Indeed, the discussion in these sections is limited to maintaining the flood control Lake Okeechobee. Neither section discusses the flooding impact of moving the Lake Okeechobee water east, west and south in an attempt to lower water levels in the Lake. The Corps should assess any increased flooding risk to the people of Palm Beach County by releasing the excess water that the Corps originally intended to put through the L-8 to tide. The document should also assess the flooding risk to the urban areas around the estuaries, which will also receive more water for longer periods of time. The Revised Draft SEIS should conclusively state whether or not Alternative E will increase the risk of flooding in other parts of the system. The Corps’ failure to address the flood control impacts on the Tribe, and Tribal Everglades, were addressed previously in these comments.

9. The Revised Draft SEIS Must Fully Divulge, and Assess, the Impact on Water Supply and the Environment of Any Potential for Increased Backpumping.

Alternative E will allow water in Lake Okeechobee to be maintained one foot lower than the level for WSE modeled over the 36 year period of record. The Revised Draft SEIS shows that Alternative E could greatly increase the possibility of a water shortage. Indeed, the Corps’ Draft SEIS admits the analysis of water shortages is highly uncertain. SEIS at 94. The Tribe recalls the manmade draw down in 2001, which caused Lake Okeechobee to reach record low levels, and

caused serious water shortages. The Revised Draft SEIS fails to contain any analysis whatsoever of whether water shortages and man-made droughts could increase the threat of undesirable backpumping into Lake Okeechobee. As stated previously, any increased threat of backpumping due to water shortages should be addressed in light of the recent federal court decision of Judge Altonaga in Case No: 02-80309-Altonaga/Turnoff, which found that the discharge of pollutants into the Lake from the S-2, S-3 and S-4 pumps requires a National System Elimination System ("NPDES) permit under the Clean Water Act

10. Revised Draft SEIS Fails to Conduct an Analysis of All Reasonable Alternatives.

The Revised Draft SEIS continues to fail to analyze reasonable alternatives that would protect the health and safety of the people living around the Hoover Dike with far less impact on the environment, the Tribe, and the endangered Snail Kite. The only alternatives analyzed in the Revised Draft SEIS continue to be variations of WSE. This alternatives analysis is totally inadequate under NEPA. The Corps should analyze alternatives that would open the S-12s. The Corps should also analyze an alternative that contains immediate completion of the Modified Water Deliveries Project. Since the Corps is modifying the Lake Regulation Schedule to prevent a Lake level that only happens about 2% of the time over a 36 year period of record, the Corps should have, but did not, analyze the reasonable and prudent alternative of evacuation. At the August public meeting, the Corps showed that there is still an 18% risk to the population even if water levels are maintained at 17.25 feet. Thus, the Corps should have analyzed evacuation as an alternative to lowering the Lake, which will cause adverse impacts on vast areas of the ecosystem and threaten the water supply. For instance, the destruction of tree islands and Snail Kite critical habitat in WCA 3A will be exacerbated by Alternative E increasing the number of weeks of sustained high water levels there. Devastating impacts on WCA 3A, and in turn the culture and way of life of the Miccosukee Tribe, could also be avoided by an alternative that contained the expeditious completion of the Mod Waters Project, or the adoption of a reasonable alternative that did not close the S-12 and other structures.

11. The Revised Draft SEIS Fails to Assess the Cost of All Reasonable Alternatives.

The Final SEIS should analyze the cost of the evacuation alternative and compare it with the cost (environmental and otherwise) of the other alternatives. This cost information should be provided under the *full* disclosure and cost benefit analysis requirements of NEPA.

12. There is an Irreversible and Irretrievable Commitment of Resources.

Section 6.22 of the Revised Draft SEIS incorrectly concludes that since there is no proposed construction, will be no irreversible and irretrievable commitment of resource. SEIS at 175. This statement is short-sighted and incorrect. An increase in the number of weeks of high water conditions in WCA 3A caused by the Alternative E would exacerbate the destruction of tree islands that would be irreversible and irretrievable. There could also be an irreversible and irretrievable loss of resources in other parts of the environment. The high water could also cause a further decline of the Tribal Everglades in WCA 3A and to the endangered Snail Kite, as well as incalculable harm to the culture

and way of life to the Miccosukee Tribe. None of these has been either addressed or analyzed.

13. The Revised Draft SEIS Fails to Adequately Analyze Water Quality Impacts.

As stated in Section II B, the Revised Draft SEIS fails to adequately analyze the impact that Alternative E would have on water quality both in WCA 3A and other areas of the Everglades and Everglades National Park, including whether these releases would comply with the Settlement Agreement requirements in the Everglades case before Judge Moreno.

14. The Revised Draft SEIS Fails to Adequately Analyze Managed Recessions.

The Revised Draft SEIS contains an Appendix F, which is entitled: “Incorporation of Periodic Managed Recessions into the TSP.” This section claims that even if the water in the Lake is kept at lower levels, there may still be circumstances that lead to a managed recession, “so incorporating its use in the EIS is important.” SEIS at F-3. This section is totally inadequate to assess impacts for such a “managed recession.” For instance, the only two performance measures used for the greater Everglades are peat dryout and tree island inundation. *Id.* at F-4. There is no water quality analysis. Moreover, even when discussing the tree island performance measure discussed, the document totally misrepresents the facts. For instance, the document admits that: “The high water scenarios produced significant increases in two indicator regions (119 and 124) in the southern areas of WCA 3A. These areas experience water depths great enough to harm tree island vegetation now, so an increase in duration of depths in these two IRs would not be preferred.” *Id.* at F-11. Indeed, it goes on to show that a managed recession would increase the number of weeks in Indicator Region 19 from 1167 under the TSP to 1203 under the managed recession. For Indicator Region 124, the number of weeks of high water goes from 592 under the TSP to 632 under the managed recession. *Id.* at F-17. However, despite the obvious evidence that a managed recession will significantly increase the number of weeks of sustained high water that will harm tree islands, the document reaches the contrary conclusion that “Impacts on the Everglades will be minimal.” The document also makes the unsupported claim, based on no water quality analysis whatsoever, that there will be “no apparent water quality impacts.” *Id.*

15. The Revised Draft SEIS is Non-Responsive to the Tribe’s Comments.

NEPA requires the Corps to respond to comments. The Miccosukee Tribe submitted extensive comments and documents which comprised 82 pages. In Appendix H, the Corps feigned a response to a scant few. A review of the Corps’ responses, shows that they are not only perfunctory but in some cases blatantly incorrect. For instance, in response to the Tribe’s concern that the Draft SEIS had not addressed the impacts to the Tribe, the Corps referred it to the revised SEIS for an “expanded discussion of effects to Native American Tribes.” Appendix H, MIC-7 at 28. A review of this section contains no mention of the Miccosukee Tribe nor analysis of impacts on the Tribe. In response to the Tribe’s claim that the Draft SEIS contained no water quality analysis, The Corps states that water quality impacts “are not expected to change.” *Id.* at MIC-8 at 28. These are just a few examples of the non-responsive and perfunctory nature of the Corps’ so-called response to the Miccosukee tribe

of Indians' comments on the Draft SEIS.

E. THE CORPS MUST COMPLY WITH THE APA AND ITS REGULATIONS

Any change to the Regulation Schedule for Lake Okeechobee constitutes an amendment to the rules and regulations for operating the Central and Southern Florida Project. This amendment of rules and regulations requires that the Corps comply with the required rulemaking procedures, including notice and the opportunity to be heard, pursuant to APA. The Revised Draft SEIS does not state that the Corps plans to comply with the rulemaking requirements of the APA. It appears that the Revised Draft has replaced the Non-Typical Operations in the Draft SEIS with the term "operational flexibility." The Corps apparently believes that "operational flexibility" will allow it to deviate from the regulation schedule without seeking permission from higher levels. The Tribe continues to contend that no matter what the Corps chooses to call its deviations, it is required to seek permission from higher levels when it seeks to deviate from the regulation schedule. It is also required to comply with NEPA when doing so.

F. DRAFT SEIS DOES NOT COMPLY WITH THE ESA

1. Revised Draft SEIS Fails to Analyze Cumulative Impacts on the Snail Kite.

The Revised Draft SEIS still fails to comply with the Endangered Species Act ("ESA"), because it does not adequately analyze the cumulative impacts of past, present, and future operational plans on the Snail Kite and other endangered species. Neither the Revised Draft, or the FWS CAR, analyzes the cumulative impacts that past water management actions (including ISOP and IOP) coupled with Alternative E will have on the Snail Kite and its critical habitat in WCA 3A. There is no FWS biological opinion in the Revised Draft, and the FWS CAR fails to even address WCA 3A except to say it is not going to analyze impacts there. Moreover, Section 6.3.1 on the Snail Kite does not even mention that this endangered species has designated critical habitat in WCA 3A. SEIS at 143-144. Thus, there is absolutely no support for the statement in the Revised Draft SEIS that Alternative E would be beneficial to the Snail Kite. *Id.* This is especially true since the Corps failed to conduct any analysis whatsoever, nor did the FWS CAR, of the impact that the increase in weeks of high water would have on the Snail Kite designated critical habitat in WCA 3A. As stated earlier, the Draft SEIS on IOP shows it has caused alarmingly high water levels in WCA 3A that has endangered the Snail Kite population and degraded and modified its critical habitat there. See, Exhibit A 69 and Attachment C at p. 19. The Corps has never shown that the terms and conditions of the Incidental Take Statement for the Snail Kite are being met under IOP. The fact that Alternative E will increase high water conditions in southern WCA 3A, could jeopardize the Kite's very existence. The Corps is required to construct an environmental baseline and conduct the analysis on cumulative impacts of the proposed actions required under both NEPA and the ESA.

2. The Revised Draft SEIS Fails to Contain a FWS Biological Opinion.

The ESA requires that biological opinions be prepared as part of the interagency consultation process to analyze whether proposed actions are likely to jeopardize the continued existence of

endangered species. The Corps should have immediately reinitiated consultation with FWS and included a biological opinion in the Revised Draft SEIS that analyzes the impact of Alternative E on the Snail Kite, and other endangered species. The FWS CAR is no substitute for the requirement for Section 7 consultation and a biological opinion on the LORSS. Moreover, the FWS CAR fails to analyze the impacts that Alternative E will have on the Snail Kite and its critical habitat in WCA 3A. There is no discussion of how the increase in weeks of high water under Alternative E will impact the terms and conditions for the Snail Kite contained in the Incidental Take Statement (“ITS”) for IOP. The failure to conduct such an analysis does not comply with the ESA.

G. THE CORPS MUST COMPLY WITH THE INDIAN TRUST DOCTRINE

The Corps owes the Miccosukee Tribe of Indians a Trust obligation and fiduciary duty to protect Tribal lands, resources, and assets pursuant to the federal Indian Trust Doctrine. This Trust obligation and fiduciary responsibility under the Indian Trust Doctrine extends protection to Tribal lands, resources and assets recognized in the Florida Indian Land Claims Settlement Act, Public Law 97339. This law established a federal Miccosukee Indian Reservation and perpetual lease in the area of the Everglades adversely impacted by the IOP and the LORS. The IOP Final SEIS shows that Tribal lands within WCA-3A are being degraded and destroyed by the Corps’ under IOP, and that this harm will be exacerbated by Alternative E. *See*, Exhibit B. Yet, despite knowing the devastating impact that its water management actions are having on Tribal lands in WCA 3A, the Corps failed to conduct meaningful consultation on Alternative E prior to issuing the Revised Draft SEIS even knowing that the modeling showed an increase the number of weeks of sustained high water in WCA 3A. The Corps has a Trust duty to see that Alternative E does not escalate the destruction of Tribal lands in WCA 3A that are vital to the culture and way of life of the Tribe, and which the Corps has a solemn responsibility to protect. The Corps should analyze other reasonable and prudent alternatives that will protect Lake Okeechobee, and the people living around it, that do not increase the environmental harm, and the public health and safety risk, to the Miccosukee Tribe. The Tribe considers the entire Everglades its traditional homeland. Thus, the Tribe asks the Corps to go back to the drawing board and consider reasonable alternatives, such as evacuation, reevaluation of closing the S-12s under IOP, and the expeditious implementation of the Modified Water Deliveries Project. Opening the S-12s would allow water to begin move through the Everglades once more and would immediately begin to alleviate high water conditions in WCA 3A and the Lake, and lessen the damaging to discharges to the estuaries. Expeditious implementation of the Modified Water Deliveries Project would create more natural flows to the Everglades, which would be beneficial to all parts of the ecosystem and all species.

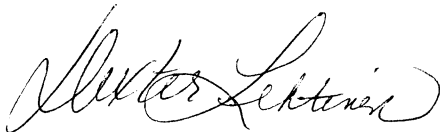
CONCLUSION

The Corps’ Revised Draft SEIS on Lake Okeechobee fails to comply with NEPA, the ESA, the APA, and the Indian Trust Doctrine. The Revised Draft contains a Preferred Alternative that was screened and selected outside the public process. It also contains results from a new model that can not be compared with previous results on the LORS or other water management plans. The Revised Draft also fails to contain any analysis of the Preferred Alternative’s impact on the endangered Snail Kite and its critical habitat in WCA 3A. For nearly a decade, the Corps’ draconian water management actions for the Sparrow (including current operations under IOP) have caused high

water conditions that have devastated Tribal Everglades and harmed the Snail Kite and its critical habitat there. The impact on the Tribe's entire culture and way of life has been incalculable. Not just Tribal lands, but Lake Okeechobee and the estuaries have all suffered as a result of the closing of these S-12 gates for nine months a year for the past ten years no matter how high the water gets in WCA 3A. The closing of these gates, allegedly for the Sparrow, has resulted in a decline (not the predicted increase in Subpopulation A) and should be reevaluated in consultation with FWS in light of the public health and safety risk around Lake Okeechobee.

The Corps also has a Trust responsibility to the Miccosukee Tribe to protect its lands from further destruction under the LORS and to mitigate the harm. It has a duty under the ESA to stop the downward spiral of the endangered Snail Kite. The Corps must take immediate steps to analyze other reasonable alternatives; issue an SEIS that complies with NEPA and other federal law; and implement the Modified Water Deliveries Project without delay. Completion of the long-delayed Modified Water Deliveries Project will protect numerous threatened and endangered species, along with urban and agricultural areas. The Corps' failure to complete this vital restoration project has resulted in environmentally harmful plans, such as the IOP, WSE, and now Alternative E. NEPA requires the Corps to consider reasonable and prudent alternatives to protect the people living around Lake Okeechobee that will mitigate harm to the environment, and protect the health, welfare, and safety of Tribal members from the stacking of water in WCA 3A. The Corps continues to refuse to analyze such alternatives, which include reevaluation of closing the S-12 gates so that water can once again flow through the Everglades, and the completion of the Modified Water Deliveries Project, which would benefit all parts of the ecosystem. The Corps should do so at once.

Sincerely,

A handwritten signature in black ink, appearing to read "Dexter Lehtinen", written in a cursive style.

Dexter W. Lehtinen

LEHTINEN VARGAS & RIEDI

ATTORNEYS AT LAW
A PROFESSIONAL ASSOCIATION

October 16, 2006

Colonel Paul Grosskruger
c/o Yvonne L. Haberer
U.S. Army Corps of Engineers
400 West Bay Street
Jacksonville, District 32232-0019
Via Fax and U.S. Mail; E-Mail; and Express Mail

**Re: MICCOSUKEE TRIBE OF INDIANS COMMENTS ON THE DRAFT
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE LAKE
OKEECHOBEE REGULATION SCHEDULE STUDY DATED AUGUST 2006.**

Attention: Yvonne L. Haberer at LORSS@saj02.usace.army.mil

Dear Colonel Grosskruger,

I. OVERVIEW

The Draft SEIS for the LORSS Fails to Comply with NEPA and other Federal Law

The Miccosukee Tribe of Indians hereby files its comments on the U.S. Army Corps of Engineers (Corps) Draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule Study (LORSS) dated August 2006. The Draft SEIS states that "All alternatives evaluated were based on managing Lake Okeechobee at a lower level than the current regulation schedule," and that the "issue of public health and safety based on the issue of the integrity of the Herbert Hoover Dike was also a key factor in the making process to select a preferred alternative regulation schedule." At the public meeting on September 12, 2006, the Tribe commented that the Draft SEIS for the LORSS appeared to contain conflicting information concerning the levels at which the Lake must be kept to ensure the integrity of the Herbert Hoover Dike (HHD). For instance, the letter from Secretary of the Army Woodley to Governor Bush attached to the Draft SEIS states that Lake levels must be kept below 18.5 feet to ensure dike integrity, while the level used to screen the alternatives was 17.25 feet. Additionally, another Corps document entitled *Lake Okeechobee and the Herbert Hoover Dike* states that: "even if we were to substantially lower the lake, during a 100 year flood event, the water comes into the lake much faster that we could remove it. The Lake level could still rise to an elevation that could result in dike failure." The Draft SEIS should contain an engineering analysis to support the 17.25 feet Lake level, and a risk analysis of potential dike failure even if the lake is lowered, so that decisions are made on sound science.

The Draft SEIS recommends the preferred alternative (1bS2-M) as the Tentatively Selected Plan (TSP). The Tribe objects to the incorrect statement in the Draft SEIS that, "There would be no impact to Native American resources." (See, SEIS at p.124.) The TSP will impact the resources of the Miccosukee Tribe and its members whose Tribal Everglades in Water Conservation Area 3A (WCA 3A) has been subject to high water conditions for over eight years under the Corps' actions, including the Interim Operational Plan (IOP). Under IOP, which closes the S-12A, B and C gates for nine months a year allegedly to protect the Cape Sable seaside sparrow, the Corps has removed the cap on how high the water can get in WCA 3A, which is precarious for Tribal members in a hurricane. The Tribe agrees with the Corps that public health and safety must be a paramount concern and asks it to show the same concern for the health and safety of Miccosukee Tribal members. Based on the public health and safety concerns expressed in the LORSS, the Corps should reevaluate the closing of the S-12 gates under IOP, and open them, so that plan to make maximum releases to WCA 3A under the TSP to protect our neighbors around the Lake does not imperil Tribal members. Opening and cleaning out the massive S-12 gates at the bottom of the system, and expediting the implementation of the Modified Water Deliveries project to allow more water to flow south, would help alleviate the high water conditions impacting the Tribal Everglades, Lake Okeechobee, and the Caloosahatchee and St. Lucie estuaries.

If an engineering analysis shows that keeping the Lake below 17.25 feet is necessary to ensure the integrity of the dike, this does not absolve the Corps of its duty under the National Environmental Policy Act ("NEPA") to disclose all impacts of such a change to the Lake regulation schedule. Under NEPA, the Corps is required to make the LORSS Environmental Impact Statement a full disclosure document and to mitigate the impacts. Thus, the Corps Draft SEIS must report all excess water, and all excess phosphorus, that will impact other environmental areas as a result of the proposed alternative. The Draft SEIS should also fully disclose the impacts of the TSP on flood control and water supply but does not.

The Draft SEIS also fails to assess the cumulative impacts on the Tribal Everglades in WCA 3A. This area of the Everglades is also the critical habitat for the endangered Snail Kite, which has declined an alarming 50% under the IOP operations in the southern part of the system. The government promised the Tribe that WCA 3A would be preserved in its natural state *in perpetuity* for the benefit and use of Tribal members. Sadly, WCA 3A has severely deteriorated under IOP operations, and the TSP, which will result in 47 additional weeks of sustained high water, will exacerbate this damage. A Court ordered SEIS on IOP recently stated: "The principal concern is that the habitat quality, and thus the carrying capacity of, WCA 3A is already seriously degraded." (Attachment A, IOP Draft SEIS excerpt at p. 69.) "Habitat quality in WCA 3A is changing progressively and dramatically to less desirable habitat in this area, and this conversion is rapid, with changes even after a year." (Id. at p. 69.) There is also very bad news for the endangered Snail Kite. The Draft SEIS states that, "The snail kite population in Florida progressively and dramatically decreased between 1999 and 2002." (Id. At 68.) "Since 2002, kite production in WCA 3A has dramatically dropped, having produced no kites in 2005." (Id. At 69.)

Despite the Corps acknowledging all the damage to WCA 3A being caused by the

increase in sustained high water of IOP, the Draft SEIS for the LORSS incredibly states that WCA 3A below I-75 will not be significantly affected by the proposed changes to the lake regulation schedule.” (SEIS at pp. 1-2.) The Draft SEIS says this even though the modeling for 1bS2-M shows that this TSP will result in an additional 47 weeks of high water above the current IOP conditions in WCA 3A. Additionally, the Draft SEIS incorrectly states that there will be no significant differences in inundation for tree islands even though Table 5-8 shows that there will be more weeks of high water. (SEIS at p. 96 and figure 5.7.) Not only are the “impact conclusions” on WCA 3A and tree islands incorrect, they are contradicted by modeling of 1bS2-M on the Corps web site. (See, Attachment B.) The Tribe is perplexed how the Corps can admit the devastation in WCA 3A wrought by IOP, yet ignore the cumulative impacts that will be caused by IOP coupled with 1bS2-M for the LORSS, including the increased high water impacts on tree islands, and the endangered Snail Kite and its critical habitat. This is a classic example of arbitrary and capricious behavior by the Corps. While the Tribe has been told that the modeling for the LORSS is ongoing, and that new modeling will show the water going to Lake Worth via the L-8 canal, it is not likely that the L-8 has the capacity to handle this increase from 77,000 acre feet to 116, 000 acre feet. Thus, increased water would in all likelihood end up in WCA 3A. Additionally, modeling that continues to be a moving target is improper under NEPA. Any change in modeling results should be contained in another Draft SEIS document.

The LORSS Draft SEIS fails to mention the current alarming plight of the Snail Kite, which has suffered a 50% decline under the years of ISOP and IOP operations. The Draft IOP SEIS admitted that Dr. Wiley Kitchens believes that “this trend of lowered reproduction is a cause of concern regarding the sustainability of the [Snail Kite] population.” (Id. at p. 68.) The Draft SEIS fails to analyze the combined impacts that IOP plus 1bS2-M (the preferred alternative for the LORSS) will have on the Snail Kite and its critical habitat in WCA 3A. The Tribe has attached the 2005 Snail Kite demography Annual Report prepared for the Fish and Wildlife Service (FWS), which states that researchers are very concerned about the alarmingly high water levels that have existed in WCA 3A. (Id. at p. 19 and Attachment C.) The SEIS must analyze the impacts that the increased weeks of sustained high water above IOP shown in the modeling for 1bS2-M will have on the critical habitat in WCA 3A and the Snail Kite.

A review of the cursory, and contradictory nature, of the Draft SEIS on the LORSS shows that it is woefully deficient and does not comply with the National Environmental Policy Act (NEPA), the Administrative Procedures Act (APA), the Endangered Species Act (ESA), and the Corps' Trust responsibility to the Tribe (including its responsibility to protect the Tribe's reservation and its leased lands in WCA-3A). The Draft SEIS appears to have been hastily put together, is contradictory in many instances, and does not contain the modeling results for WCA 3A within the document. Perhaps, that is because the modeling results for 1bS2-M do not support the inaccurate statements of “no harm” in the document. The Draft SEIS contains no hydrographs or stage duration curves for WCA 3A, nor does it analyze the impacts that the TSP will have on WCA 3A or the indicator regions 14 and 19 specified in the Incidental Take Statement for the Snail Kite under IOP. Indeed, the Draft SEIS should contain modeling results for all areas of the Everglades impacted by the TSP in the LORSS, so that the public can comment. Simply putting such results on a Corps web site does not meet the NEPA requirement

that the SEIS must be a full disclosure document. Directing people, some who may not even have a computer, to a complicated Corps web site is not sufficient under the statute.

In short, the Draft SEIS contains contradictions, errors, inaccurate statements, and misrepresentation of facts and data. It appears to be a perfect example of "first the verdict-then the trial." The Draft SEIS fails to meet the requirements of NEPA and other federal law. Since the Corps has not sought, nor obtained, any "emergency" authorization from the Council on Environmental Quality (CEQ), it must fully comply with NEPA prior to action. It also appears that the preferred alternative for the LORSS was devised and adopted "behind closed doors" by an advisory group that failed to comply with the Federal Advisory Committee Act (FACA), and that the group's recommendation is being rubber stamped in the Draft SEIS. (Draft SEIS at pp. 11 and 133.) Although, the Corps says it welcomes public comment, it appears the decision on a preferred alternative was made outside of the public process long ago and recommended to the Corps. In fact, Dennis Duke made a point at the public meeting of saying that this group, which included non-federal members, developed and recommended the TSP to the Corps.

II. SPECIFIC COMMENTS ON THE DRAFT SEIS DOCUMENT AND PROCESS

A. THERE WILL BE IMPACTS TO NATIVE AMERICAN RESOURCES.

The Tribe was especially disturbed by the unsupported statement in the Draft SEIS at Section 5.20 that, "There would be no impact to Native American resources." (Draft SEIS at p. 124.) This statement is directly contradicted by modeling of the preferred alternative for the LORSS on the Corps web site, which shows there will be an increase of 47 weeks of sustained high water on Tribal Everglades in WCA 3A, which has already been flooded by the high water conditions created by IOP. This increase in high water under the preferred alternative will increase tree island loss and further destroy the critical habitat of the Snail Kite in WCA 3A. It also continues to break the government's promise under the Indian Land Claims Settlement Act that this area would be preserved in its natural state in perpetuity for the benefit and use of the Tribe. The Tribe has been advised that new modeling will be conducted that shows this water going through the L-8 to Lake Worth. Yet, the L-8 does not appear to have the capacity for this excess water which, in all likelihood, will end up on Tribal lands in WCA 3A.

B. THE WATER QUALITY ANALYSIS IS NON-EXISTENT IN THE DRAFT SEIS

The Draft SEIS states, not based on any analysis, that there will be only very minor adverse effects on water quality in the WCAs. This conclusion is based only on an STA constraint, and not on a water quality analysis that shows the quality of the increased releases that will be going to the WCA s and other areas as a result of the TSP lowering of Lake Okeechobee approximately one foot. The Corps SEIS should specifically identify the amount of phosphorus and other pollutants expected to be released to various destinations under any revised Lake Okeechobee regulation schedule, including any additional release of water containing phosphorus and other pollutants to the WCAs. This section should also include an analysis of the impact the increased releases will have on the Settlement Agreement requirements in Case No. 88-1886-Civ-Moreno in terms of both phosphorus concentrations and load.

The preferred alternative (1bS2-M) also appears to increase backpumping into Lake Okeechobee above current operations. The Tribe has already filed suit against the SFWMD for not having an National Pollutant Discharge Elimination System Permit ("NPDES) for its backpumping of pollutants into Lake Okeechobee from the S-2, S-3 and S-4 pumps. Lake Okeechobee phosphorus has increased dramatically over the past two years with 2005 reaching a record 950 metric tons. The increased backpumping caused by 1bS2-M without the required NPDES permits will exacerbate conditions in the Lake and add even more pollutants.

C. THE DRAFT SEIS DOES NOT CONTAIN A BIOLOGICAL OPINION

The Draft SEIS should contain a biological opinion by the Fish and Wildlife Service (FWS) that analyzes, among other things, the combined impact that IOP and the preferred alternative for the LORSS will have on the endangered Snail Kite and its critical habitat in WCA 3A. The Tribe contends that the Corps is required to consult with FWS under Section 7 of the ESA on combined impacts that IOP and 1bS2-M (which shows 47 more weeks of sustained high water in Snail Kite critical habitat) will have. There is no such analysis in the Draft SEIS. A 2003 FWS Report on the Snail Kite Report shows there has been an alarming 50% decline in the Snail Kite population, and the 2005 Snail Kite report shows no young fledged out of WCA 3A that year. The Draft SEIS should have included a biological opinion that looks at the combined impact of IOP, and the increased weeks of sustained high water of the preferred alternative, will have on the Snail Kite and its critical habitat in WCA 3A but did not. (Attachment C at p. 10.)

As stated previously, the Draft SEIS on IOP admits: "The principal concern is that the habitat quality, and thus the carrying capacity of, WCA 3A is already seriously degraded," and that "Habitat quality in WCA 3A is changing progressively and dramatically to less desirable habitat in this area, and this conversion is rapid, with changes even after a year." (Attachment A, Draft SEIS at p. 69.) "The Snail Kite population in Florida progressively and dramatically decreased between 1999 and 2002." (Id. At 68.) "Since 2002, kite production in WCA 3A has dramatically dropped, having produced no kites in 2005."(Id. at p. 69.) It further admits that Dr. Wiley Kitchens believes that "this trend of lowered reproduction is a cause of concern regarding the sustainability of the population."(Id. at p. 68.)

In light of the current public health and safety concerns about the Herbert Hoover Dike, it is imperative that the Corps to reinitiate consultation with FWS to reevaluate the closings of the S-12 gates under IOP. Renowned sparrow experts have recommended less environmentally destructive alternatives for sparrow subpopulation A, such as captive rearing, predator control and other localized actions that could replace draconian water management actions that are causing harm to the Everglades (including WCA-3A), Lake Okeechobee, and the estuaries. The data in the Draft SEIS on IOP shows that the both ISOP and IOP have not helped sub-population A of the sparrow. (Attachment A, Draft IOP SEIS at p. 66.) Like the Snail Kite, the western sub-population A has declined since 1999. Id. The population estimates show that sparrow sub-population fared quite well with the gates open in 1981 and in 1992 until Hurricane Andrew hit. Id. In fact, the sub-population A estimates show that the Corps' actions under ISOP and IOP have

actually resulted in a decline, which would be in keeping with Dr. Post and Greenlaw's warnings that the actions being taken for the sparrow are "simplistic." Id. In light of the public health and safety issues, the Corps should reinitiate consultation with FWS to reevaluate the closing of the S-12 gates, which if open could allow water to flow south, as part of the LORSS process.

D. THE DRAFT SEIS FAILS TO COMPLY WITH NEPA

1. The Draft SEIS Rubber Stamps the "Tentatively Selected Plan."

The preferred alternative (1bS2-M) is the Tentatively Selected Plan (TSP) that an advisory group recommended to the federal agency (the Corps). The TSP was developed and screened in closed door meetings by a group that did not comply with the Federal Advisory Committee Act (FACA). A review of the Draft SEIS shows that the group reviewed information, including modeling results that are not in the document itself, and screened alternatives. The Draft SEIS contains no detailed analysis of modeling results for the WCAs, including hydrographs and stage duration curves (i.e. number of weeks high/low water depth exceeded) that show the impacts of the preferred alternative on WCA 3A. Nowhere in the Draft SEIS does it contain hydrographs of WCA 3A, and other areas of the Everglades, that show 1bS2-M compared to IOP in these areas. In short, the Draft SEIS is nothing more than a rubber stamp of a preordained decision that was developed in a process that was not public.

Sadly, the Corps failed to comply with its Trust responsibility to consult with the Tribe on a TSP that would adversely impact Tribal natural resources and its culture and way of life prior to rubber stamping it. For the past eight years, four of them under IOP, The Corps has taken actions that have caused irreversible destruction to Tribal Everglades and the Tribe's culture and way of life. Now, the Corps has utilized an advisory committee in the LORSS process that has recommended a TSP that will exacerbate the high water conditions in WCA 3A without holding the meetings required by FACA and without prior consultation with the Tribe.

2. The No Action Alternative Is Improper.

According to the Draft SEIS the No Action Alternative is the WSE but with temporary forward pumps that do not exist. (Draft SEIS at p. 14.) It is improper to use an alternative that does not currently exist as the No Action Alternative, rather than the WSE that currently does, as the No Action Alternative in the LORSS NEPA analysis. This is nonsensical and turns NEPA on its head. The No Action Alternative should be the last Water Control Plan and regulation schedule for Lake Okeechobee that has gone through the reviews required by law.

3. There Is No Analysis of Cumulative Impacts.

The Corps SEIS fails to contain a cumulative impact analysis that analyzes the combined impact that the past eight years of water management operations have had on WCA 3A and the human environment coupled with the future years of IOP and 1bS2-M for the LORSS. NEPA

requires that federal agencies consider “cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts” should be discussed in the same impact statement. 40 C.F.R. § 1508.25. In addition, 40 C.F.R. §1508.7 defines a “cumulative impact” as the “impact on the environment which results from the incremental impact of the action when added to other past, present and other reasonable foreseeable future action,” and thus requires analysis. The Draft SEIS contains no such analysis. The Corps can not rely on a one paragraph non-analysis in the Draft SEIS at Section 5.22 that says that “cumulative impacts are likely to occur” but does not analyze what they would be. (SEIS at p. 125.) NEPA requires the Corps to assess the cumulative impacts of their past and present operations on the human environment.

4. There is No Health and Safety Analysis of High Water in WCA 3A.

The Draft SEIS for the LORSS contains no public health and safety analysis of how having no cap on how high the water can get in WCA 3A under IOP, coupled with the increased weeks of high water in WCA 3A under the TSP, will impact the Tribe. In the Draft and Final EA on the 1998 so-called emergency deviation for the sparrow, the Corps admitted that there are design integrity concerns for WCA 3A when water is high. (Attachment D.) While the Corps has properly expressed concern about the integrity of the dike surrounding Lake Okeechobee and high water conditions, it has not expressed any concern, nor analyzed, the impact that the increase in weeks of high water in WCA 3A under 1bS2-M could have on the members of the Miccosukee Tribe who live in the area of the WCA 3A levee. Page C-7 of the 1998 Final EA frankly discussed options and the impact that the continued closing of the gates and the backing up of water could have on both Lake Okeechobee and the WCAs:

[t]he continued deviation from established water regulation schedules in order to minimize discharges south would increasingly tax the operation and capability of the system, especially for the upcoming wet season. Target elevations for the beginning of the wet season would probably be exceeded, even further reducing the system's ability to respond to events. There is an issue of increased risk to human safety due to high water levels in both Lake Okeechobee and the WCAs. Higher water levels during the wet season reduce the flood control capacity of the system.

The 1998 Draft EA also states, under section 4.06, the consequences of extending the emergency that:

Observations of the 1994-95 high water events have shown that if high water levels are maintained through the dry season, then water levels in WCA-3A remain excessively high during the following season, thereby reducing the overall storage capacity of the WCAs. Not only would this situation have exacerbated recent damage to the native upland communities in WCA-3A, but it could have also set the stage for reenactment of the current emergency next year.

The Draft SEIS for the LORSS fails to address the issue of whether the resulting

reduction in storage in the WCAs under IOP has exacerbated the impacts that hurricanes and storms have had, and will continue to have, on Lake Okeechobee. Nor does it contain a modeling analysis that shows the high water impacts on the WCAs, Lake Okeechobee, and the St. Lucie and Caloosahatchee estuaries, as required under NEPA. The Tribe urges the Corps to address this health and safety issue, as the safety of Tribal members has been threatened in the past when Hurricane Michelle threatened and the closed S-12 structures were threatening to overflow.

5. There Are No Modeling Results That Show Impacts on WCA 3A.

The modeling for the preferred alternative (1bS2-M) that was posted on the Corps web site shows 47 more weeks of sustained high water in WCA 3A over IOP under the TSP. (Attachment B.) Yet, the Draft SEIS contains no modeling results for WCA 3A and the other areas of the Everglades for the public to review. No hydrographs for WCA 3A are contained in the Draft SEIS that compares the number of high water weeks under IOP(439) with that under 1bS2-M (486). Id. It is improper under NEPA to not put these modeling results in the Draft SEIS, so that the increase in weeks of sustained high water in WCA 3A can be readily observed. The Draft SEIS should contain model comparisons between IOP, 1bS2-M, and the Natural Systems Model (NSM), so that the public can comment on the differences.

The statement in the Draft SEIS that “although the number of weeks varies, “none of these differences is significant” is not supported by the modeling or science. The IOP SEIS states that one of the “most significant causes of habitat degradation in WCA 3A are flood damage to tree islands in the northeastern and southwestern part of the WCA.” (Attachment A at p. 61.) The TSP will increase the number of weeks of high water in an already drowning WCA 3A. 9. The modeling shows that the high water conditions in WCA 3A will be exacerbated, along with the impacts on tree islands and the endangered Snail Kite’s critical habitat.

6. The Impact on the Endangered Snail Kite Is Not Adequately Addressed.

Dr. Wiley Kitchens has stated that the sustainability of the Snail Kite population is threatened. (Attachment A at 68-69; See also Snail Kite 2005 Report at Attachment C.) Despite acknowledging the alarming decline in the Snail Kite population and its critical habitat in WCA 3A under IOP, the Draft SEIS on Lake Okeechobee fails to contain an adequate analysis of the impacts of the TSP (1bS2-M) on the Snail Kite and its critical habitat in WCA-3A, as required under both NEPA and the ESA. It should also contain a biological opinion using the modeling of 1bS2-M, as required under the ESA. The Draft SEIS should also contain a baseline study, and a cumulative impacts analysis that analyzes the impacts that the eight years of water management actions for the sparrow coupled with the LORSS preferred alternative will have on the Snail Kite and its critical habitat in WCA 3A. There is also no analysis of whether the increase in the number of weeks of high water conditions that 1bS2-M will cause in WCA 3A will meet the non-discretionary terms and conditions of the FWS Incidental Take Statement (“ITS”) on IOP. The Draft SEIS contains no hydrological modeling results for how the TSP will effect Indicator Regions 14 and 19, which are required to be monitored for the Snail Kite under the ITS on IOP.

The attached hydrological graph of WCA 3A for 2005, shows that water there was alarmingly high in the year that no young Snail Kites fledged out of WCA 3A. (Attachment E.) The modeling results for WCA 3A under 1bS2-M that were on the Corps web site show that there will be 47 more weeks of sustained high water there. (Attachment B.) Yet, the Draft SEIS contains no analysis that this increase in weeks of sustained high water will have on the Snail Kite in WCA 3A. The Corps also ignores that Snail Kite researchers are concerned about the alarmingly high water levels in WCA 3A. (Attachment C at p. 19.) It is the Corps' responsibility to see that the TSP for the LORSS complies with the ESA.

The Corps can no longer evade the fact that sustained high water in WCA 3A has caused, and will continue to cause, adverse impacts to the Snail Kite and its designated critical habitat on Tribal Everglades in WCA 3A. As stated previously, the Corps own Draft IOP SEIS admits, The principal concern is that the habitat quality, and thus the carrying capacity of, WCA 3A is already seriously degraded." (Attachment A, Draft SEIS at p. 69.) Habitat quality in WCA 3A is changing progressively and dramatically to less desirable habitat in this area, and this conversion is rapid, with changes even after a year." (Id. at p. 69.) "The snail kite population in Florida progressively and dramatically decreased between 1999 and 2002." (Id. at p. 68.) "Since 2002, kite production in WCA 3A has dramatically dropped, having produced no kites in 2005." (Id. at p. 69.) Indeed, the Draft SEIS admits that Dr. Wiley Kitchens believes that "this trend of lowered reproduction is a cause of concern regarding the sustainability of the population." (Id. at p. 68.) (See also, 2005 Snail Kite Report at Attachment C.)

The 2005 Snail Kite Report is proof that IOP has caused an alarming decline in the Snail Kite population and has devastated its critical habitat in WCA 3A. There is every reason to believe that the additional 47 weeks of sustained high water under 1bS2-M will result in jeopardy to the Snail Kite and adverse modification to its critical habitat. (Attachment C.) The Corps is required to include the hydrological modeling results for WCA 3A in the LORSS Draft SEIS under NEPA. The Corps has the duty to abide by the ESA. The Corps must ask FWS to reinstitute Section 7 consultation on the cumulative impacts that IOP and the preferred alternative for the LORSS will have on the Snail Kite and its critical habitat in WCA 3A, as well as other endangered species. The Corps must also conduct a review of whether the preferred alternative will comply with the Incidental Take Statement on the Snail Kite in the SEIS, including through modeling results that analyze the indicator regions 14 and 19.

7. The Draft SEIS Fails to Take the "Hard Look" Required by NEPA.

The disparity between the modeling results and the statements in the Draft SEIS on the impacts on WCA 3A is evidence that the requisite "hard look" required by NEPA has not been taken, at least on WCA 3A. It is clear that the Draft SEIS requires further information. The Tribe has demonstrated that there is ample evidence in the record that harm to WCA 3A has occurred under IOP and will be exacerbated by the preferred alternative. The Corps must take the "hard look" required under NEPA of the harm that the TSP (1bBS2-M) will cause. This same failure to take a "hard look" at harm also applies to the St. Lucie and Caloosahatchee River estuaries, and Lake Okeechobee itself, which have, and will, continue to suffer adverse impacts

because of IOP, and which will be exacerbated under the preferred alternative.

8. The Draft SEIS Must Meaningfully Analyze Flooding Impacts.

The Draft SEIS fails to adequately analyze the adverse impacts that increasing the releases to other areas under 1bS2-M will have on flood risk. The Draft SEIS should include stage hydrographs for cells in the urban and agricultural areas for the modeling period that shows ground elevations and stage duration curves, so the public can determine whether the preferred alternative in the LORSS will increase the flood risk in any other areas.

9. The Draft SEIS Must Fully Divulge Impacts on Water Supply.

The preferred alternative in the LORSS (1bS2-M and/or TSP) will allow water to reach one foot lower than level reached for WSE that was modeled over the 36 year period of record. This would greatly increase the possibility of a water shortage. In 2001, after a manmade draw down, Lake Okeechobee reached a record low of 8.99 feet. There was a severe water shortage that resulted in serious socioeconomic consequences that cost over \$10 million dollars and could have been even more catastrophic if it had not rained. The Draft SEIS must fully and clearly divulge the increased risk of water shortages and discuss the socioeconomic and potential consequences to millions of people that could be affected. The Corps must also take full responsibility for any water shortages that occur.

10. The Draft SEIS Fails to Conduct an Analysis of All Reasonable Alternatives.

The Draft SEIS fails to analyze other reasonable alternatives that would protect the health and safety of the people living around the Herbert Hoover Dike with less impact on the Everglades and the Miccosukee Tribe. The only alternatives analyzed in the Draft SEIS are variations of the WSE. This alternatives analysis is totally inadequate under NEPA. Since the Lake Regulation Schedule is being modified to prevent a lake level that only occurs about 2% of the time over a 36 year period of record, the Corps should analyze alternatives that help move more water south and out of the system. For example, the Corps should analyze alternatives that include the cleaning out and opening of the massive S-12 gates to allow more water to flow south. The S-12 A, B and C gates have been closed nine months out of the year for more than eight years now allegedly to help subpopulation A of the sparrow, but have not helped. The Corps should discuss implementing the less environmentally destructive alternatives to the closing of the S-12 gates with FWS that were recommended by sparrow experts Dr. Will Post and Dr. Jon Greenlaw: such as captive rearing, predator control and other localized actions to replace the gate closings under IOP. (Attachment F.) The Draft SEIS should also analyze an alternative that involves the immediate completion of the Modified Water Deliveries Project, which as Dennis Duke stated at the public meeting would allow a heck of a lot of water to go south. Any alternatives should also address evacuation. The Tribe implores the Corps to explore these, and any other alternatives, that would lessen the destruction of Tribal Everglades and other areas that would be exacerbated by 1bS2-M delivering an increase of 11% a year of water.

11. The Draft SEIS Fails to Disclose the Costs of the Alternatives.

The Draft SEIS contains no cost estimate for the forward pumps and all other components of the TSP (1bS2-M.) This cost information must be provided under the *full* disclosure and cost benefit analysis requirements of NEPA.

12. There is an Irreversible and Irretrievable Commitment of Resources.

Section 5.2.3 of the Draft SEIS incorrectly concludes that since there is no proposed construction, will be no irreversible and irretrievable commitment of resource. This is short-sighted and incorrect. The increase in the number of weeks of sustained high water conditions in WCA 3A under 1bS2-M would cause destruction of tree islands that would be irreversible and irretrievable. There could also be an irreversible and irretrievable loss of resources in other parts of the environment. The increased number of weeks of high water would also cause a further decline of the Tribal Everglades in WCA 3A and to the endangered Snail Kite, as well as incalculable harm to the culture and way of life to the Miccosukee Tribe.

13. The Draft SEIS Fails to Adequately Analyze Water Quality Impacts.

As stated in Section A, the Draft SEIS fails to adequately analyze the impact that the preferred alternative would have on water quality both in WCA 3A and other areas of the Everglades and Everglades National Park, including whether these releases would comply with the Settlement Agreement requirements in the Everglades case before Judge Moreno.

E. THE CORPS MUST COMPLY WITH THE APA AND ITS REGULATIONS

Any change to the Regulation Schedule for Lake Okeechobee constitutes an amendment to the rules and regulations for the operation of the Central and Southern Florida Project (C&SF). This amendment of rules and regulations requires that the Corps comply with the required rulemaking procedures, including notice and the opportunity to be heard, pursuant to APA. The Draft SEIS does not state that the Corps plans to comply with the rulemaking requirements of the APA. Additionally, the Tribe objects to the Non-Typical Operations (NTO) defined in the Draft SEIS. The Tribe contends that the Corps is improperly using these NTO to side step regulations that require the Corps in Jacksonville to seek permission from higher levels for deviations from the regulation schedule that also require NEPA compliance.

F. DRAFT SEIS DOES NOT COMPLY WITH THE ESA

1. Draft SEIS Fails to Analyze Cumulative Impacts on Endangered Species:

The Draft SEIS fails to comply with the Endangered Species Act (ESA), because it does not adequately analyze the cumulative impacts of past, present, and future operational plans on the Snail Kite and other endangered species. The Draft SEIS does not analyze the cumulative

impacts that past water management actions (including ISOP and IOP) coupled with the preferred alternative 1bS2-M in the LORSS will have on the Wood Stork, Snail Kite and its critical habitat, and other endangered species. There is no biological opinion included in the Draft SEIS. Thus, there is absolutely no support for the statement in the Draft SEIS that the preferred alternative would be beneficial to the Snail Kite. (Draft SEIS at p. 99.) This is especially true since the Corps failed to conduct any analysis of the impact that the increase in weeks of high water under 1bS2-M would have on the Snail Kite designated critical habitat in WCA 3A. As stated earlier, the Draft SEIS on IOP shows it has caused alarmingly high water levels in WCA 3A that has resulted in a 50% decline in the endangered Snail Kite population and degraded and modified its critical habitat there. (Attachment A at 69 and Attachment C at p. 19.) The fact that the Corps has never shown that the terms and conditions of the Incidental Take Statement for the Snail Kite are being met under IOP, and that 1bS2-M increases high water conditions in southern WCA 3A, could jeopardize its very existence. NEPA and the ESA requires the Corps to construct an environmental baseline and an analysis on cumulative impacts.

2. The Draft SEIS Does Not Contain a FWS Biological Opinion.

The ESA requires that biological opinions be prepared as part of the interagency consultation process to analyze whether proposed actions are likely to jeopardize the continued existence of endangered species. The Corps should reinstate consultation with FWS on the preferred alternative (1bS2-M) immediately, and issue a new Draft SEIS that contains a biological opinion that analyzes the impact of the TSP on all endangered species. The Biological Opinion should discuss whether the Corps can meet the terms and conditions for the Snail Kite contained in the Incidental Take Statement ("ITS") on IOP under the increased weeks of sustained high water of 1bS2-M, and contain modeling results for indicator regions 14 and 19.

G. THE CORPS MUST COMPLY WITH THE INDIAN TRUST DOCTRINE

The Corps owes the Miccosukee Tribe of Indians a Trust obligation and fiduciary duty to protect Tribal lands, resources, and assets pursuant to the federal Indian Trust Doctrine. This Trust obligation and fiduciary responsibility under the Indian Trust Doctrine extends protection to Tribal lands, resources and assets recognized in the Florida Indian Land Claims Settlement Act, P.L. 97339. This law established a federal Miccosukee Indian Reservation and a perpetual lease in the area of the Everglades which will be adversely impacted by the preferred alternative in the LORSS. As shown in the IOP Draft SEIS (Attachment A), Tribal lands within WCA-3A are already being degraded and destroyed by the Corps' IOP. Despite the Corps acknowledging the devastating impact that these water management actions have had on Tribal lands in WCA 3A, it failed to conduct meaningful pre-decisional consultation with the Tribe prior to issuing a Draft SEIS for the LORSS that contained a TSP that will increase the number of weeks of sustained high water in WCA 3A forty-seven weeks over the already devastating IOP. The Corps has a Trust duty to see if an alternative exists that does not exacerbate the destruction of Tribal Everglades in WCA 3A, vital to the culture and way of life of the Tribe. In light of the fact that hurricane season is drawing to a close, the Tribe asks the Corps to take some additional time to correct the deficiencies in its Draft SEIS for the LORSS and to evaluate other reasonable

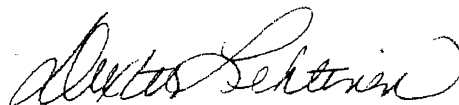
alternatives that will protect Lake Okeechobee, and the people living around it, without increasing environmental harm and risk to the Miccosukee Tribe. Those alternatives examined should include, reevaluation of the current closing of the S-12 gates, the opening of which would alleviate high water conditions in WCA 3A, the Lake, and the estuaries; and the immediate completion and implementation of the Modified Water Deliveries Project that would be beneficial to all parts of the South Florida ecosystem.

CONCLUSION

The Corps' Draft SEIS for the LORSS, as currently written, fails to comply with NEPA, the ESA, the APA, and the Indian Trust Doctrine. The Corps' Draft SEIS, among other things, contains a preordained decision and does not divulge all the modeling results in the document. Nor does the Draft SEIS contain the required analysis of the preferred alternative's impact on the endangered Snail Kite and its critical habitat in WCA 3A. For more than eight years, the Corps' draconian water management actions (including IOP) have caused high water conditions that have devastated Tribal Everglades and harmed the Snail Kite and its critical habitat there. The impact on the Tribe's entire culture and way of life has been incalculable. Not just Tribal lands, but Lake Okeechobee and the estuaries have suffered as well, from the closing of the S-12 A, B and C gates for nine months of the year. The opening and cleaning out of these massive structures would allow more water to flow south and should be reevaluated in light of the public health and safety risk as part of the LORSS.

The Corps has a Trust responsibility to the Miccosukee Tribe to protect Tribal lands from further destruction under the LORSS and to mitigate the harm. It also has a duty under the ESA to stop the downward spiral of the endangered Snail Kite. The Corps must take immediate steps to analyze other reasonable alternatives; issue an SEIS that fully complies with NEPA and other federal law; and implement the Modified Water Deliveries Project without delay. The Corps' failure to complete the Modified Water Deliveries Project has resulted in environmentally harmful plans, such as the IOP and the WSE. The expeditious implementation of this Pre-CERP project would establish more natural flows of water through the Everglades and help alleviate the high water conditions in the Everglades and Lake Okeechobee, and reduce damaging releases to the estuaries. Should the Corps demonstrate that it is necessary to lower the Lake by a foot for the health and safety of the people living around the Lake, a NEPA full disclosure document still requires the Corps to divulge all the impacts and to consider all reasonable alternatives that would mitigate the harm to other areas. Any alternative selected should also ensure the protection of the health and safety of Tribal members, as well, from high water conditions in WCA 3A. It is time that the closing of the massive S-12 gates that stacks up water in the Everglades and Lake Okeechobee, and causes damaging releases to the estuaries, comes to an end.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dexter Lehtinen", with a large, sweeping flourish at the end.

Dexter W. Lehtinen, Esq.

June 2006

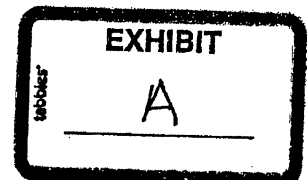
**DRAFT SUPPLEMENTAL
ENVIRONMENTAL IMPACT STATEMENT**

**INTERIM OPERATIONAL PLAN (IOP)
FOR PROTECTION OF THE CAPE SABLE
SEASIDE SPARROW**

**EVERGLADES NATIONAL PARK
MIAMI-DADE COUNTY, FLORIDA**



**U.S. Army Corps of Engineers
Jacksonville District**



Currently, the two most significant causes of habitat degradation in WCA 3A are flood damage to tree islands in the northeastern and southwestern portions of 3A and the loss of peat soils, marshes, and tree islands in the northern portions of WCA 3A as a result of drought conditions and resulting wildfires. Although WCA 3B is drier than pre-drainage conditions, tree islands have remained largely unimpacted in this area. Alternatives 1, 2, 3, 5, and 6 would not have a significant effect on vegetation throughout the majority of WCA 3A, with the exception of slightly drier conditions in extreme northeastern 3A under Alternative 1 and Alternative 2-Phase 1. These drier conditions may provide some relief for tree islands that have experienced flood damage in this area. The increases in ponding depths in WCA 3B under Alternatives 1, 2, 3, 5, and 6 may provide some relief for over drained areas in southeastern 3B. Increases in ponding depths in the remainder of 3B under these same alternatives may have negative effects on some tree islands as a result of increased flooding. Alternative 4 would also increase ponding depths in WCA 3B, but to a greater degree than the other alternatives.

Alternative 7 and Alternative 7R would provide hydrologic relief to NESRS and WSRS without excessive ponding in WCA 3A. S-12D would remain open and provide an important conduit for excess rainfall inundating WCA 3A during wet years without causing higher water elevations in the western sparrow habitat. Currently, the two most significant causes of habitat degradation in WCA 3A are flood damage to tree islands in the northeastern and southwestern portions of 3A and the loss of peat soils, marshes, and tree islands in the northern portions of WCA 3A as a result of drought conditions and resulting wildfires. ISOP 2000, ISOP 2001, Alternative 7, and Alternative 7R would not have adverse effects on vegetation throughout WCA 3A.

Although WCA 3B is drier than pre-drainage conditions, tree islands have remained largely un-impacted in this area from flooding. ISOP 2000, ISOP 2001, Alternative 7, and Alternative 7R would not have adverse effects on vegetation throughout WCA 3B.

Eastern Marl Prairies and Taylor Slough

Although Alternative 2, Phase 1 (IOP 2A) removes a berm in front of L-31W for the purpose of encouraging sheet flow to the eastern marl prairies, the average annual hydroperiod distribution for Taylor Slough and the eastern marl prairies is similar to Alternative 1. Alternative 1 and Alternative 2-Phase 1 both produce a similar increase in hydroperiod duration in the eastern Rocky Glades, relative to 95BaseMod conditions. Alternative 3-Phase 1 (IOP 2B) would increase the annual hydroperiod distribution for cells in the northeastern Rocky Glades, relative to Alternative 1 and Alternative 2-Phase 1. Phase 2 (IOP 2) of Alternatives 2 and 3 and Alternative 4 would produce hydroperiod increases similar to Alternative 3-Phase 1 in the northeastern Rocky Glades, but would also increase hydroperiods closer to the central, eastern Rocky Glades. None of the alternatives produce measurable changes in the central and lower portions of Taylor Slough. The effects of the alternatives on ponding depths follow a similar pattern to the hydroperiod distribution effects. Increases in hydroperiods in the eastern Rocky Glades areas adjacent to the LEC urban areas should benefit vegetative communities that have suffered from over drainage in the past. Marl prairies in the northern Rocky Glades adjacent to the LEC urban areas have been negatively

alternatives is expected to significantly alter the status of snail kites or their habitat in WCA 3A.

In the February 19, 1999 BO, the FWS concluded that the snail kite would be adversely affected by the C&SF Project operations, at that time known as Test 7, Phase I, of the Experimental Program of Water Deliveries to Everglades National Park. No incidental take of snail kites was anticipated; however, the incidental take analysis was developed based on the premise that the original RPA would be implemented. The original RPA would have eliminated detrimentally deep water levels and long hydroperiods in southern and eastern WCA 3A, as water was shifted from WCA 3A in order to meet the RPA targets for water releases east of the L-67 Extension. The recommended alternative, Alternative 7R, was proposed as the biological equivalent for providing the same protection to the Cape Sable seaside sparrow as would the water management provisions of the original RPA. Alternative 7R would not provide the same relief in terms of hydrologic improvements to the southern and eastern portions of WCA 3A as would the original RPA.

The Corps agreed to implement a "Construction Monitoring Plan" for C-111 and MWD features operating with Alternative 7R for snail kites that would avoid disturbance to nesting snail kites, and construction activities will only occur within, or nearly within, existing structure footprints. Thus, according to the FWS, activities associated with C-111 and MWD features operations are not likely to adversely affect the snail kite. The FWS concurs, however, that operational implementation of Alternative 7R could adversely affect snail kites and designated snail kite critical habitat in WCA 3A but would not likely jeopardize the species.

As stated in the Final Amended B.O., the FWS anticipates that Alternative 7R would result in incidental take in the form of "harm" resulting from significant habitat modification or degradation that results in death or injury to individual snail kites by impairing essential breeding and foraging patterns measured by the frequency and duration of high-water events. The two indicator regions where snail kites have been documented and which experience excessively high water levels are Indicator Regions 14 and 19. Thus, if actual operations of Alternative 7R produce higher water levels than those predicted to occur via the SFWMM in Indicator Regions 14 (Southern WCA 3A) and 19 (Eastern WCA 3A), as measured by a gauge or gauges mutually agreed upon by the FWS and the Corps as compared to a five-year rolling average of the model output for those indicator regions, then the Corps would have exceeded the incidental take authorized by this amendment. This incidental take is anticipated to occur annually until implementation of CSOP. The CSOP is scheduled for full structural and operational implementation no later than 2007. This level of incidental take is to be considered an addition to the incidental take authorized by the February 19, 1999 BO, as amended. Full details regarding the terms and conditions for the incidental take are included in the Final Amended B.O.

Monitoring Efforts

The Corps has funded a program to monitor nesting effort and success of the Everglade Kite in the Water Conservation Areas (WCA) since 1995 with Dr. Wiley Kitchens, of USGS and

the University of Florida. The objectives are to track the numbers and success of kite nesting activities in WCA 3A as part of an on-going demographic study of the kite over its range and to try to understand the environmental variables related to successful breeding. The Corps is also funding Dr. Kitchens to monitor vegetation responses to altered hydrologic regimes in WCA-3A in areas of traditional kite nesting and foraging habitat, in accordance with recommendations in the 2002 B.O. on IOP.

The snail kite population in Florida progressively and dramatically decreased between 1999 and 2002 from approximately 3400 to 1700 birds in response to the moderately severe regional drought of 2000/2001. Survival of both juveniles and adults rebounded shortly after the drought, but the number of young produced has not recovered from a sharp decrease that preceded the drought. Population size estimates of abundance between 2002 and 2003 suggest a possible stabilization at approximately 1500-1600 birds. Although the population size estimates of 1700 for 2004 and 2005 are slightly higher than both 2002 and 2003, this is not thought to be statistically significant. Nesting activity is summarized below for the three full years since implementation of IOP.

		<u>Active Nests</u>	<u>Successful Nests</u>	<u>Young Fledged</u>
2003	WCA 3A	82	28	37
	WCA 3B	2	0	0
	ENP			
	Elsewhere*	65	19	29
2004	WCA 3A	48	19	25
	WCA 3B	6	3	4
	ENP			
	Elsewhere*	51	21	36
2005	WCA 3A	12	0	0
	WCA 3B	0		
	ENP	0		
	Elsewhere*	107	23	39

* WPB, Lake Kiss., Lake E Toho., Lake O, St Johns Marsh, Lake Toho., Lake Istopoga, WCA 2A, WCA 2B, WCA 1, BCNP.

In 2005, nesting success was lower than during any other year between 1992 and 2005. Historically, nests in WCA 3A have fledged, proportionally, the large majority of young in the region. No young were fledged out of WCA 3A in 2005. Dr. Kitchen's believes that this trend of lowered regional reproduction is a cause of concern regarding the sustainability of the population.

The persistence of the snail kite in Florida is thought to depend principally on the large wetlands present in the WCAs. Current water regulation schedules shorten the window of

time during which kites can breed. In addition to the negative effect on reproduction, the rapid water level recession rates from the elevated stage schedule between February and July, intended to mitigate the extended hydroperiods and excessive depths between September and December, presents extreme foraging difficulties to both juvenile and adult kites.

WCA-3A is the largest and most consistently utilized (as measured by numbers of birds observed during annual surveys from 1970 to 1994) of the designated Critical Habitat for the kites. Snail kites have increasingly moved their nesting activity to areas of higher elevations in WCA-3A over the past two decades, presumably as the traditional nesting vegetation has been degraded by sustained high water levels due to water management practices. Higher water levels have resulted in the conversion of wet prairies (preferred foraging habitat for kites) to aquatic sloughs in selected sites in that area, along with losses of interspersed herbaceous and woody species essential for nesting habitat. Hydrological modeling of IOP-Alt.7R in 2002 indicated that implementing the project could result in excessive ponding and extended hydroperiods of the type that could further degrade nesting and foraging habitat. While the impacts of IOP-Alt.7R might adversely impact a significant portion of the Critical Habitat, the U.S. Fish and Wildlife Service determined in 2002 that it is not likely to result in jeopardy to the snail kite and recommended a number of reasonable and prudent measures to minimize impacts of incidental take of snail Kites. Among the terms of this document are requirements for: 1) tracking the yearly status of the snail kite and any vegetative shifts that may occur within snail kite habitats, and 2) determining the number of snail kites initiating nesting in the action area and the success rate of those nesting efforts each year. The Florida Cooperative Fish and Wildlife Research Unit is currently under contract by the Corps to satisfy the monitoring requirements. The vegetative monitoring part of this work expires in 2006, but is expected to be extended. Specifically, it addresses the concern that IOP-Alt.7R could adversely affect the structure and function of vegetation communities in WCA-3A, portions of which are designated Critical Habitat of the snail kite. The principal concern is that the habitat quality, and thus the carrying capacity, of WCA 3A is already seriously degraded. Although still preliminary, the studies tend to confirm these concerns. Since 2002, kite production in WCA 3A has dramatically dropped, having produced no kites in 2005. This coincides with successive annual shifts (2002, 2003, 2004, and 2005) in community types within the slough/prairies at sites reported in 2002 to be prime areas of snail abundance, and thus kite foraging, in WCA 3A. The conversion trend from emergent prairies/sloughs to deep water sloughs is certainly degradation in habitat quality for the kites. Habitat quality in WCA 3A is changing progressively and dramatically to less desirable habitat in this critical area, and this conversion is rapid, with changes evident even after a year. Continuation of the monitoring protocol would allow these changes to be tracked for indications of rebound or continued degradation, as well as to be able to sort out the effects of hurricanes from those that might be due to IOP.

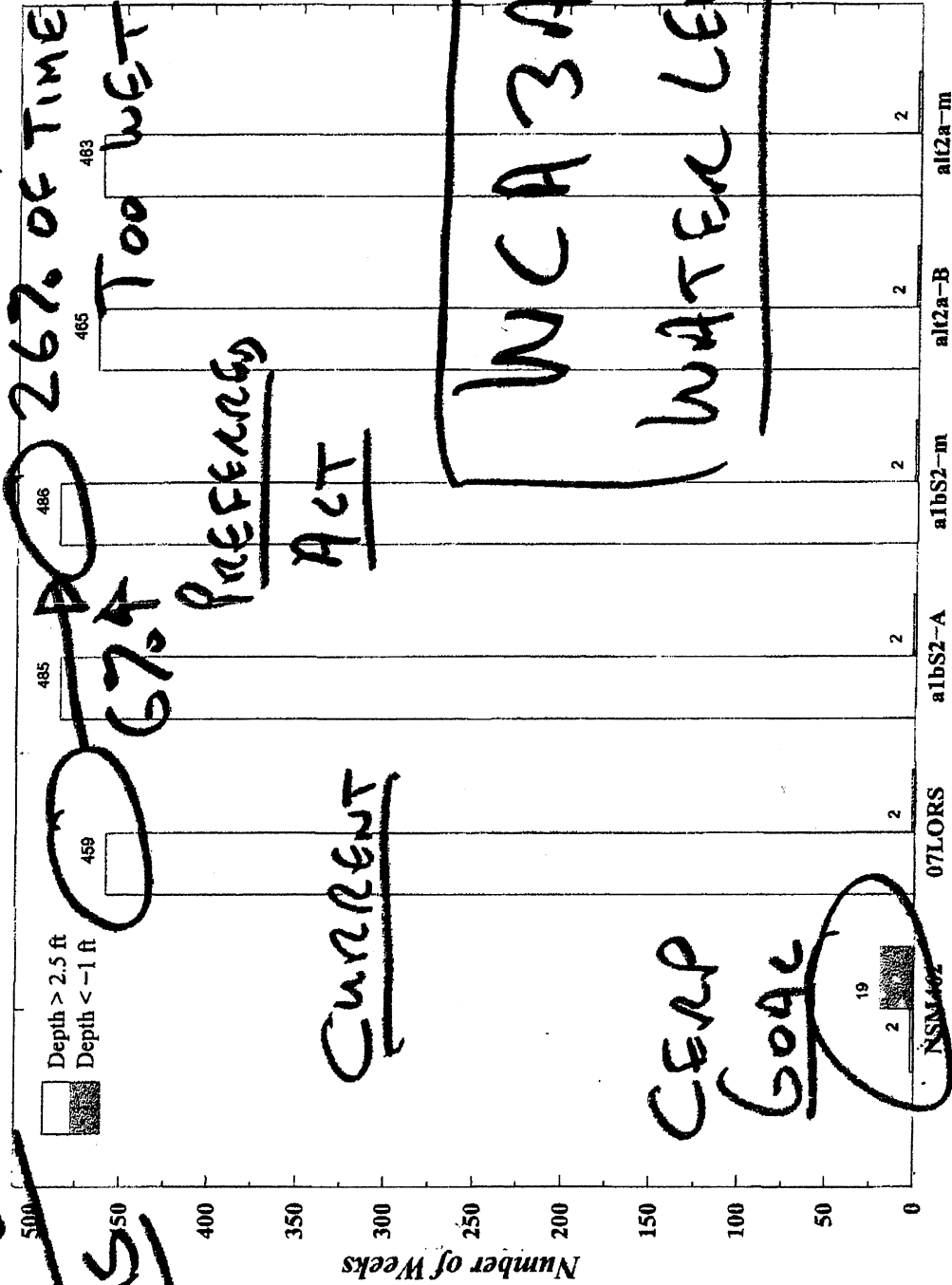
Wood Stork

The quality of foraging habitat in NESRS and the Rocky Glades is expected to improve as a result of increases in annual hydroperiod distribution with all Alternatives. Longer hydroperiods are expected to improve foraging habitat by expanding the available habitat for aquatic prey base species and prolonging the availability of dry season refugia for prey

Number of Weeks High/Low Water Depth Criteria Exceeded

Lake Stevens

Indicator Region 124 (R24C17-20 R25C18-21 R26C18-21)



Note: The desired condition is to exceed the high water depth as few times as possible and go below the low water depth as few times as possible.

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EXHIBIT

B

**SNAIL KITE DEMOGRAPHY
ANNUAL REPORT 2005**

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2005 Report

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February 2006

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PREFACE

This document is not intended as a definitive stand alone and completed piece of work. We strongly recommend the 1997 report (entitled: Movement and demography of the Snail Kite in Florida) and the publication from Dreitz et al. (2002), for more complete explanations about the protocol employed. We also included two articles relevant to the conservation and habitat management of snail kites. These two articles should not be distributed, until printed copies are made available from the peer reviewed journals.

This report is intended as an annual progress report informing funding and interested agencies regarding the status of our snail kite monitoring study.

This monitoring effort is long term. It should be noted that our field personnel are monitoring the snail kite throughout its range on a year-round basis.

This progress report allows investigators to highlight significant progress in the form of both analytical and personal observations.

ABSTRACT

This report presents demographic data on snail kites in Florida. It concentrates on data collected in 2005, but also synthesizes data collected since 1992.

Recent demographic results show alarming trends concerning the snail kite population in Florida. First we found that kite abundance drastically declined between 1999 and 2003. This decline coincides with a multiregional drought that affected survival of juveniles and adults. Survival of both juveniles and adults rebounded shortly after the drought. On the other hand, the number of young produced has not recovered from a sharp decrease that preceded the drought. The estimate of population size for 2005 does not indicate any significant recovery. In fact, reproduction was exceptionally low in 2005. No kites were observed fledging out of the Water Conservations Areas (WCA's). For the period 1992-2005, statewide reproductive success was at its lowest in 2005. In this report we also make specific recommendations that may help managers plan management actions aimed at increasing snail kite population growth.

INTRODUCTION

The snail kite (*Rostrhamus sociabilis plumbeus*) is an endangered raptor that inhabits flooded freshwater areas and shallow lakes in peninsular Florida and Cuba (Sykes 1984, Sykes et al. 1995). The historical range of the snail kite once covered over 3.6 million ha in Florida (Davis and Ogden, 1994), but is now restricted mainly to the watersheds of the Everglades, Lake Okeechobee, Loxahatchee Slough, the Kissimmee River, and the Upper St. Johns River.

The snail kite is unique in that it is the only avian species whose population in the U.S. is restricted to freshwater wetlands in central and south Florida. The snail kite in addition to being endangered is considered by many to be an excellent barometer of the success of the restoration efforts currently underway.

Snail kite habitats in south and central Florida exhibit considerable variation in their physiographic and vegetative characteristics, which include graminoid marshes (wet prairies, sloughs), cypress swamps, lake littoral shorelines, and even some highly disturbed areas such as agricultural ditches and retention ponds (Bennetts and Kitchens 1997a). Three features that remain constant within the selected habitats are the presence of apple snails, sparsely distributed emergent vegetation (Sykes 1983b, 1987a), and suitable nesting substrates.

Snail kites are dietary specialists, feeding almost exclusively on the freshwater apple snail, *Pomacea paludosa* (Sykes 1987a, Sykes et al. 1995). They use two visual foraging methods, either flying above the water surface or hunting from a perch (Sykes 1987a), and both require open water and sparse vegetation. In the Water Conservations Areas, kites typically nest in woody vegetation over water, such as willows, bald cypress, pond apple, wax myrtle, etc. (Beissinger 1988, Bennetts et al. 1988, see also Appendix 1). On the other hand,

kites use predominantly herbaceous nesting substrate when nesting in the Kissimmee Chain of Lakes (see Appendix 1). The snail kite's survival depends on maintaining hydrologic conditions that support these specific vegetative communities and subsequent apple snail availability in at least a subset of critical size wetlands across the region each year (Bennetts et al. 2002).

Wetland habitats throughout central and southern Florida are constantly fluctuating in response to climatic or management influences, resulting in a mosaic of hydrologic regimes. Snail kites respond to these fluctuations through movements between wetlands. (Bennetts and Kitchens, 1997a, 1997b). Developing a thorough understanding of kites' ability to move between wetlands, their resistance and resilience to disturbance events (e.g. droughts and high water events) or changes in habitat is essential to optimizing the management of the systems inhabited by the snail kite in Florida.

This report presents information on the current demography of snail kites throughout central and southern Florida. It concentrates on demographic data collected in 2005, but will also synthesize data collected since 1992.

METHODS

Study Area

The Florida population of snail kites is best viewed as a single spatially structured population, distributed among a network of heterogeneous wetland units in central and southern Florida (Bennetts and Kitchens 1997a, 1997b). Kites utilize the entire spatial extent of their range, exhibiting interchange among wetland units (Bennetts and Kitchens 1997a, 1997b, Martin et al. 2006). The study area includes a large portion of these different wetland units used by snail kites throughout peninsular Florida (Figure 1).

Monitoring protocol

Survey method

Multiple consecutive surveys were conducted throughout the designated wetland units (Figure 1) from March to June at 2-3 week intervals of each year since 1992. This time period coincides with the occurrence of peak nesting (Bennetts and Kitchens 1997a). The surveys followed a format similar to the quasi-systematic transects conducted by airboat for the annual count (Sykes 1979, 1982; Bennetts et al. 1994). During each survey we inspected every sighted kite using both binoculars and spotting scopes. We categorized each observed individual as follows: (1) "marked" if the kite carried a band that could be uniquely identified; (2) "unmarked" if the sighted kite did not carry an identifiable band; or (3) "unknown" whenever the banding status of the kite could not be determined (see Martin et al. in review).

Nest monitoring

Nests were checked with a telescoping mirror pole to determine their status. Water depths at certain nests were determined by placing a meter stick vertically into the water column until it rested on the sediment. GPS (Global Positioning System) locations of the nest, nesting substrate and height were also recorded. We also assigned the status of each nest failure to one of four categories:

1-Predation or post scavenging event with no nest collapse: any nest that included scattered remains of young or adults kites (e.g., wing; conglomerate of feathers etc.), broken egg shells, or no eggs where a full clutch was present before.

2-Predation or post scavenging event associated with nest collapse: any nest built on robust substrate (e.g. shrubs), whose collapse was likely to have been caused by a land predator (e.g., raccoons). This category only included nests with a reasonable access to land predator (i.e., water depth < 50 cm and/or relatively close to land < 50m)

3-Nest collapse: any nest failure associated to the falling of the nest out of its original location.

4-Unable to determine reason of nest failure: any nest that contained an incomplete egg clutch on subsequent monitoring visits (possibly due to abandonment or adult mortality) or any nest that that could not be relocated.

Mark-resighting

Snail kites were banded during fledging time (approximately 25 days old) with alphanumeric bands. During each of the surveys we reported the number of unmarked and marked kites. Individually marked birds were identified using a spotting scope.

Radiotelemetry

In March 2003 we initiated a radio telemetry study, with a sampling design similar to the 1992-1995 study (Bennetts and Kitchens, 1997). Birds were located by aircraft and airboat monthly. This protocol was designed to estimate movement among wetlands (Martin et al. 2006); and survival (see also “Data analysis”).

Data reported and statistical analysis

Nest Success

We calculated nest success for the period of record using the following estimator:

$$\widehat{NS} = x/n$$

Where \widehat{NS} is the maximum likelihood estimate of the probability of nest survival (or nest success), x is the number of nests which produced at least one fledgling, and n is the number of nests initially observed with at least one egg (Williams et al. 2002).

Survival

The Cormack-Jolly-Seber model (CJS, Cormack 1964, Jolly 1965), implemented in program MARK (White and Burnham 1999), was used to estimate survival probability (denoted $\hat{\phi}$). The Akaike Information Criterion (AIC) was used to select the best model describing survival (Burnham and Anderson 1998). The protocol and previous survival estimates (up to 1999) have been published elsewhere (Bennetts and Kitchens 1997a, Bennetts et al. 2002). CJS models were also used to estimate detection probability (i.e., the probability of detecting a snail kite given that it is present in the study area during the period of sampling). We also reported this calculated detection probability (denoted \hat{p}).

Total population size

We used the superpopulation approach described in detail by Dreitz et al. (2002) to estimate population size of snail kites between 1997 and 2005.

Number of young produced

Starting in 2004, we recorded the number of banded and unbanded young- snail kites. Using the superpopulation approach , we were then able to estimate the number of young produced (Martin et al. in review). However, because of the small sample size of young marked, we could not estimate detection probabilities that were specific to young kites. Instead we used detection probability estimated for adults.

Bird movement

Using a multistate modeling framework, we conducted a movement analysis at two temporal scales (month and year) and two spatial scales (wetlands and regions) (see Martin et al. 2006).

Juvenile survival using radio-telemetry

Preliminary survival estimates based on radiotelemetry information were obtained using the following estimator:

$$\hat{S} = y / u$$

Where \hat{S} is the maximum likelihood estimate of the probability of surviving, y is the number of snail kites alive that were located, and u is the number of individuals that were marked initially (Williams et al. 2002).

RESULTS

Reproduction

Number of nests counted.

Ten percent of the total number of nests were found in the WCAs. No nests were observed in WCA2B, 1A, 2A, 3B, Everglades National Park and Big Cypress (Table 1). Thirty-eight percent of the nests were found in Lake Tohopekaliga in 2005 (Table 1). Thirty-five percent of the total number of nests were found throughout the remainder of the range in Lake Okeechobee, West Palm Beach Water Catchment Area, Lake Istopoga and St Johns River Marsh.

Number of juveniles banded.

Out of 117 nests that were monitored in 2005, 39 young were fledged (but only 30 kites were banded). Nineteen kites were banded during the typical study period (March 1 to June 30). An additional 11 kites were fledged between August 22 and October 17.

The total number of young fledged throughout the entire state dropped substantially after 1998, but was particularly low in 2005 (Figure 5). Prior to 1998, the number of young fledged annually for the entire state varied between 117 and 306. From 1999 to 2003, the annual number varied between 26 and 97. Proportionally, the large majority of birds fledged over time have been generated from the Water Conservation Areas, principally WCA3A, however in 2005 no young were fledged out of WCA3A. This trend of lowered reproduction raises concerns regarding the population sustainability. Using the superpopulation approach we estimated that 55 young were produced in 2005 (Martin et al. in review).

Nest success

In 2005, the estimate of nest success for the entire population was 0.17 ($\widehat{SE}(\widehat{NS}) = 0.04$). Average nest success statewide between 1992 and 2005 was 0.31 ($\widehat{SE}(\widehat{S}) = 0.04$). Estimates of nest success between 1992 and 2005 are presented in Fig. 2. Nest success in 2005 was lower than during any other years between the interval 1992 and 2005. Using direct and indirect evidence, we note that 36% of the nests in Lake Tohopekaliga (particularly those initiated early in the nesting season) showed signs of predation or post-scavenging events. Table 1 summarizes the number of nests that were predated (or alternatively, that were scavenged after nest failure) for the entire study area.

Table 1. Snail kite nests by study area in 2005 and their production/fate

Study Area	Active Nests ^a	Successful Nests ^b	Young Fledged ^c	Intact Depredated Nests ^d	Non- Intact Nests ^e	Collapsed Nests ^f	Other Failed Nests ^g
West Palm Beach (WPB)	14	1	1	9	1	1	3
Lake Kissimmee (KISS)	9	1	2	4	1	2	1
Lake E. Toho. (ETOH)	1	0	0	0	0	1	0
Lake Okeechobee	23	3	3	14	0	1	5
St Johns Marsh	9	2	3	4	1	1	0
Lake Tohopekaliga	47	12	21	20	5	5	5
Lake Istopoga	4	4	9	0	0	0	0
WCA 2B	0	-	-	-	-	-	-
WCA 2A	0	-	-	-	-	-	-
WCA 3A	12	0	0	10	0	0	2
WCA 1A (Loxahatchee)	0	-	-	-	-	-	-
Big Cypress Nat. Pres.	0	-	-	-	-	-	-
Everglades National Park	0	-	-	-	-	-	-
WCA 3B	0	-	-	-	-	-	-

a: number of nests found containing at least one egg or young

b: number of nests fledging at least one young

c: number of young successfully fledged

d: potential nest depredations as evidenced by missing eggs/broken egg shells and/or snail kite feathers/parts (predation cannot be separated from post scavenging events)

e: potential nest depredations as evidenced by collapsed/overturned nests that were sturdy and unlikely to have collapsed without predator disturbance (predation cannot be separated from post scavenging events)

f: collapsed nests due to substrate failure/inclement weather

g: other failed nests (unable to determine cause; however, possibilities include abandonment, adult mortality, etc.)

Survival

During non-drought years adult survival has remained constant over time (Fig. 3a). However, survival dropped substantially between 2000 and 2001, and to its minimum value between 2001 and 2002, in response to the regional drought of 2000-2001. This drop represented a decrease of 16% in adult survival (see Martin et al. 2006). Juvenile survival has varied widely over time, but also reached a record low between 2000 and 2001 (Fig. 3, from Martin et al. 2006). Juvenile survival decreased by 86% in 2000 through 2002, when compared to its average over the non-drought years (1992 - 1999 and 2003 - 2004).

Population Size

The snail kite population in Florida progressively and dramatically decreased between 1999 and 2002 (Figure 4) from approximately 3400 to 1700 birds. Population size estimates of abundance between 2002 and 2003 suggest a possible stabilization at approximately 1500-1600 birds. Although the population size estimates (approximately 1700) for 2004 and 2005 are slightly higher than both 2002 and 2003, the confidence intervals of these estimates are overlapping indicating that the population has not shown clear signs of recovery. Appendix 2 summarizes capture data used in the estimation procedure.

Radio telemetry

Out of 68 young kites equipped with radios in 2004, only 5 survived until the period January- March 2005. This corresponds to a survival rate of 0.073. This estimate is less than the survival estimate of $\hat{S} = 0.55$ for juveniles radiotracked in 2003. In fact, values this low

have only been recorded previously during the recent drought event of 2000-2001. These estimates do not consider detection probabilities, therefore theoretically they could underestimate true survival. However, given the high detection probability obtained with our radiotracking protocol we believe detection probabilities to be approaching 1.0 for both of these estimates (Martin et al. 2006).

DISCUSSION

Our recent demographic studies point toward alarming trends in the snail kite population in Florida. First, we have found that kite numbers have drastically declined since 1999 (Fig. 4). Concurrent with the population decline there is a corresponding decline in nesting attempts, nest success and the number of young fledged (Fig. 5). A number of factors have likely contributed to these observed declines. Lake Okeechobee, which from 1985 to 1995 was a productive breeding site, has become only a minor contributing unit (in terms of reproduction) since 1996. In 2000 and 2001 South Florida experienced a major drought that affected nearly the entire habitat network of the kite (although the Kissimmee Chain of Lakes (KCL) appeared to be less affected) (Martin et al. 2006). Survival of both adults and juveniles was strongly affected by this natural disturbance, especially in the Water Conservation Areas and Lake Okeechobee (Martin et al. 2006). The KCL appeared to serve as refugia to this drought perhaps because these more northern lacustrine wetlands were less affected by the drought than the palustrine wetlands located in the south. As a consequence survival of kites that occupied KCL in 2001 did not decrease substantially (Martin et al. 2006). Following this drought there was also an intensive draw down of the Upper Kissimmee Chain of Lakes (2004) along with extensive aquatic weed control activities in the littoral zone (managed draw down with mechanical scraping and herbiciding) of the littoral reach of Lake Tohopekaliga. This drawdown had the equivalent impact of a sub regional drought in terms of lake stages and no doubt influenced the production of kites from the KCL for that year (Figure 5).

While adult survival declined temporarily during the 2000-2001 drought (Fig.3.a), we are particularly concerned about an apparent continuing lack of recruitment of juveniles which appears to be currently limiting population growth. A preliminary population viability

analysis (PVA, see 2003 annual report), predicts high probability of extinction in the next 50 years if survival and reproduction as well as drought frequency maintain the same rates as per the last 10 years (Martin et al. in preparation).

Given the perennial contribution of the WCA's to the annual production of kites (Fig. 5) there is little doubt at this point in time that the persistence of kites in Florida depends principally on the habitat quality within these wetlands. Current water regulation schedules in the WCA's have the potential to drastically shorten the window during which kites can breed successfully (Mooij et al. in review) (see "Recommendations"). In addition, rapid water level recession rates from the elevated stage schedule between February and July can present enormous foraging difficulties to both juvenile and even adult kites (Mooij et al. in review). During low precipitation regimes the current regulation schedule increases the likelihood of localized drought, which may reduce kite survival if other habitats are not available in close proximity (Martin et al 2006). In 2004 for instance, we estimated that 430 juveniles were produced (the water levels in the WCA's were fairly high during the initial part of the breeding season, see 2004 annual report). Out of 68 birds that we radioed, only 7% were re-observed between January and March 2005 (indicating that the recruitment was minimal). We attribute this mass mortality to the prolonged drying of the WCA's (Fig. 6 and Fig. 7). In addition, this drying event occurred at the same time as the managed draw down of the entire Kissimmee Chain of Lakes, which reduced the potential for this area to serve both as a refuge and as an alternate source of recruitment. In 2005, only 30 fledglings were observed and marked which is a record low since 2001. No fledglings were observed in the WCA's which typically is the most productive area. This absence of reproduction is particularly disturbing given that the WCA's did not dry down in 2005. It is possible that part of the problem is due

to the prolonged drying of the WCA's that occurred in 2004 (which may have substantially affected the apple snail population). However we note that over 80 kites were fledged and marked in 2002 (which followed the 2001 drought). Therefore other factors may be involved (see recommendations).

Interestingly, Figure 7 shows that during the period of study (1992-2005), whenever water stages in WCA3A remained above 9 feet at station 3AS3W1, juvenile survival remained high ($> 37\%$; we note that in 1992 water stages fell below 9 feet, however few birds were marked in WCA3A during that year, and therefore the high survival in Fig. 3.a did not accurately reflect juvenile survival that prevailed in WCA3A in 1992; on the other hand after 1992 most birds marked statewide were marked in WCA3A). Conversely, whenever water stages fell below 9 feet, juvenile survival was substantially reduced ($< 36\%$). Prolonged drying events appeared to be particularly harmful to juveniles. Indeed, any drying event (water stage below 9 feet at station 3AS3W1) that lasted more than 3.5 months, caused a dramatic decrease in juvenile survival ($< 10\%$), and even severely reduced adult survival.

Concerning the effect of hurricanes on snail kites, hurricanes certainly have the potential to affect nesting and foraging habitat of kites, by altering the vegetation through wind effects but also through the effect of flooding. Hurricanes could also directly affect kite survival, but we currently do not have any quantitative measures of the direct or indirect effect of hurricanes on kites because too few radio-tagged individuals were present in areas recently impacted by hurricanes.

RECOMMENDATIONS

A recent radio telemetry study showed that although kites move extensively among contiguous wetlands (i.e. KCL or WCA's) most kites do not move as freely as previously thought among wetlands which are isolated by extensive areas of unsuitable habitats (Martin *et al.* 2006). This may actually impede a significant proportion of birds from moving successfully to refuge habitats during drying events.

"This observation is of particular importance to management of the Everglades Ecosystem, given the paradigm that the persistence of good natural habitats requires occasional drying events" (Bennetts *et al.*, 1998; Kitchens *et al.*, 2002). Restoration projects that involve wholesale dry downs of an entire region (e.g., restoration of Lake Tohopekaliga) (Welch, 2004) may want to consider the option of conserving water in at least some local patches within the region to be affected, to serve as refuge for snail kites. The draw downs of local patches should occur sequentially, allowing a sufficient recovery period for previously dried areas to return to a productive level. Moreover, the pattern of drying and inundation should optimally attempt to mimic as closely as possible the hydrology of the Everglades under a more natural landscape (Fennema *et al.*, 1994)" (Martin and Kitchens in prep).

Because WCA3A is currently so critical to kites persistence, we propose a management plan for that wetland unit using a modification to the existing regulation schedules. Whenever dry conditions (drier than the 10 year average) are predicted (e.g. La Nina events etc.) for the period April to July, managers may want to follow "Zone E regulation" for the period January to September of the same year (in any case water stages at 3AS3W1 should not fall below 9 feet for any prolonged period of time (< 3 weeks)), in order to mitigate negative effects of dry conditions on snail availability to kites. Doing so would

probably prevent the catastrophic mortality that was observed in 2004 and 2001. By contrast, when conditions are “normal” or “wetter” than average “Zone E1 ISOP regulation” could be adopted for that same period of time. This would possibly allow for better apple snail productivity (Darby et al. 2005). In fact, Darby et al. (2005) suggest that for the period February to April water depth should remain below 40 cm (or equivalently 9.41 feet at station 3AS3W1, see Fig. 7) to allow for better snail production, but they warn that any prolonged drying event (especially if it occurs at a critical time during the snail’s reproductive cycle) could be highly detrimental to snails. Therefore, our recommendations are compatible with Darby et al. (2005). We note that wet years and dry years could be predicted by examining climatological data. El Nino years for instance are good indicators of wet conditions while La Nina years are good indicators of dry conditions in the wetlands used by kites (Martin et al. in prep.). Several researchers (e.g., Mooij et al. in review; Kitchens et al 2002; Darby et al. 2005) have raised their concerns about potentially adverse effects of flooding in WCA3A. In recent years water levels in WCA3A have been maintained at alarmingly high levels (in part due to recent hurricanes) for the period September to January. We suggest that water levels in WCA3A should be maintained around Zone E regulation for the period September to January (more specifically, water stages at 3AS3W1 should not go above 10.5 feet for any prolonged period of time (<3 months)) in order to mitigate negative effects of prolonged hydroperiod (or/and greater water depth) on vegetation communities and apple snail production (Kitchens et al. in prep and Darby et al. 2005).

We also would like to reiterate the importance maintaining a monitoring program to document snail kite population changes, apple snail densities, habitat shifts and quality relative to kite usage.

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Figure 1. Study area, with the number indicating the area sampled during the surveys.

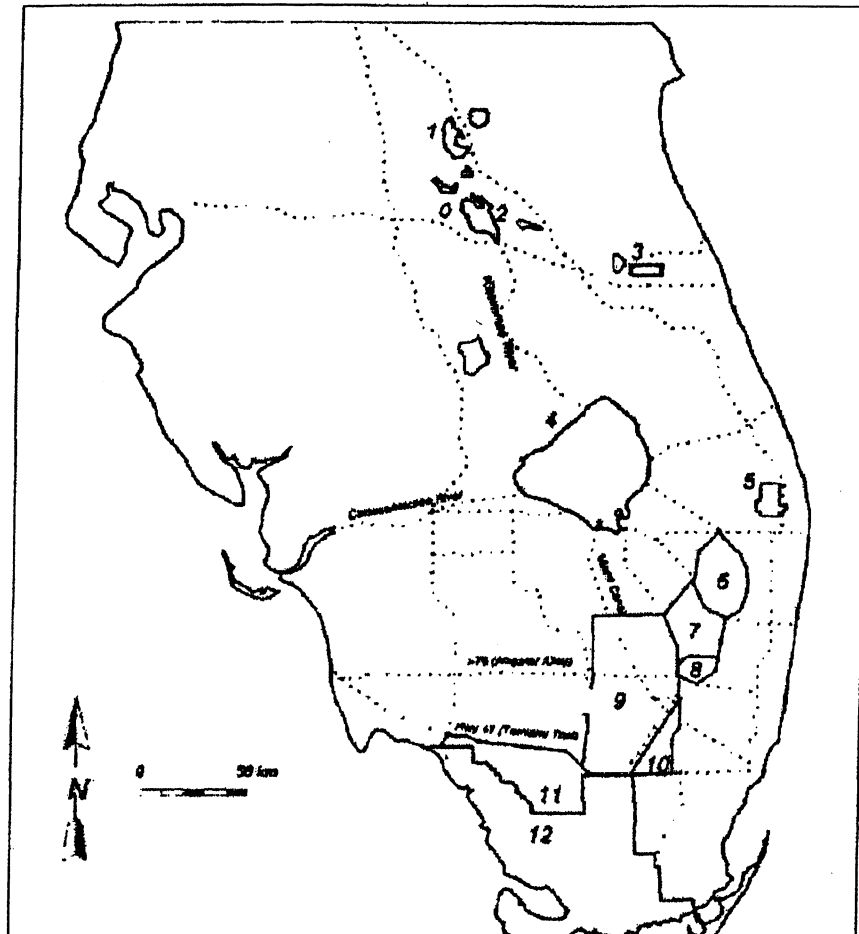


Figure 2. Nest success between 1992 and 2005 (estimates from 1992 and 1997 were taken from Dreitz et al 2001). Error bars correspond to 95% confidence intervals.

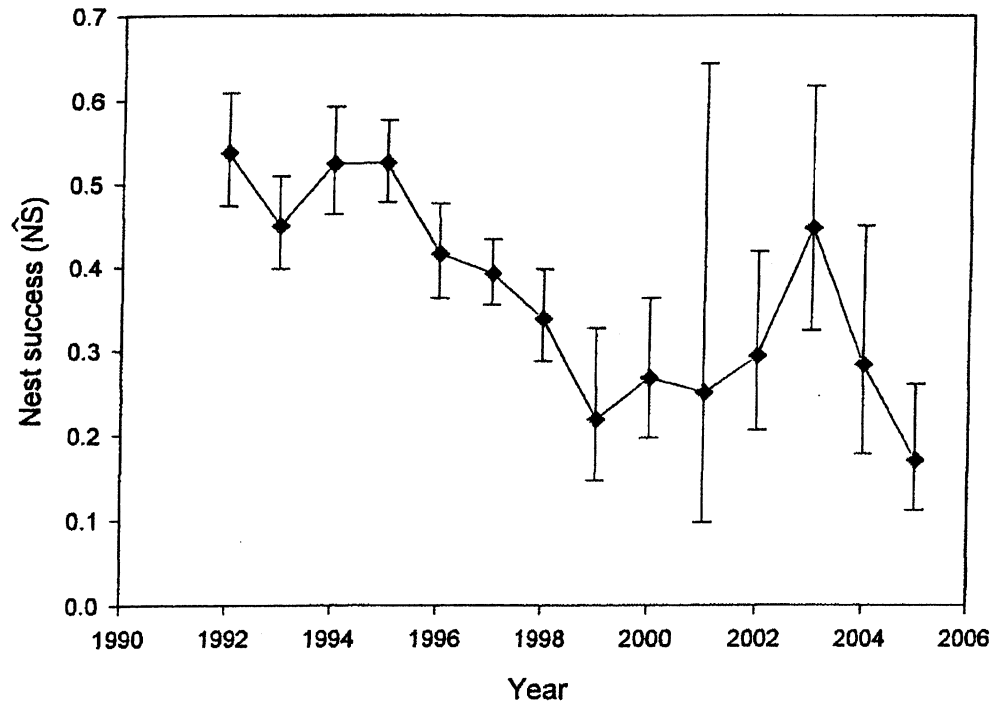


Figure 3. (a) Model averaged Estimates of adult (black squares) and juvenile (white dots) survival ($\hat{\phi}$) between 1992 and 2005; (b) estimates of detection probability (\hat{p}). Error bars correspond to 95% confidence intervals. Red star correspond to juvenile survival estimated using radiotelemetry data.

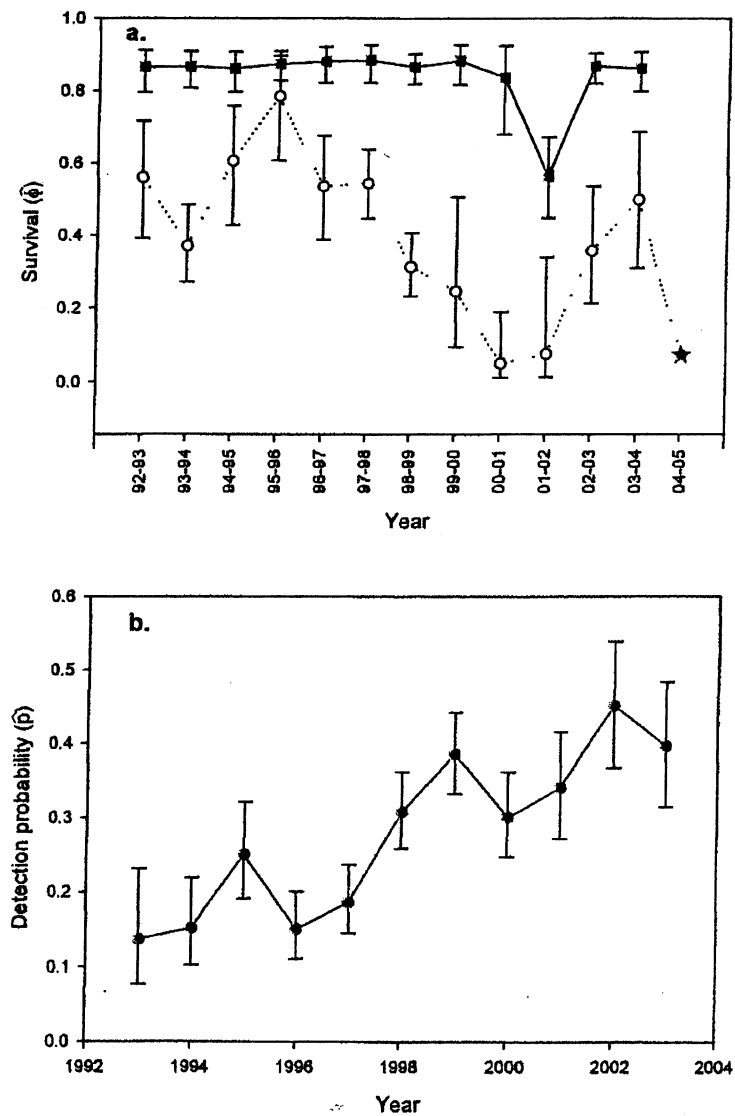


Figure 4. Population size of snail kites estimated using the superpopulation approach (Dreitz et al. 2002; Martin et al. in review).

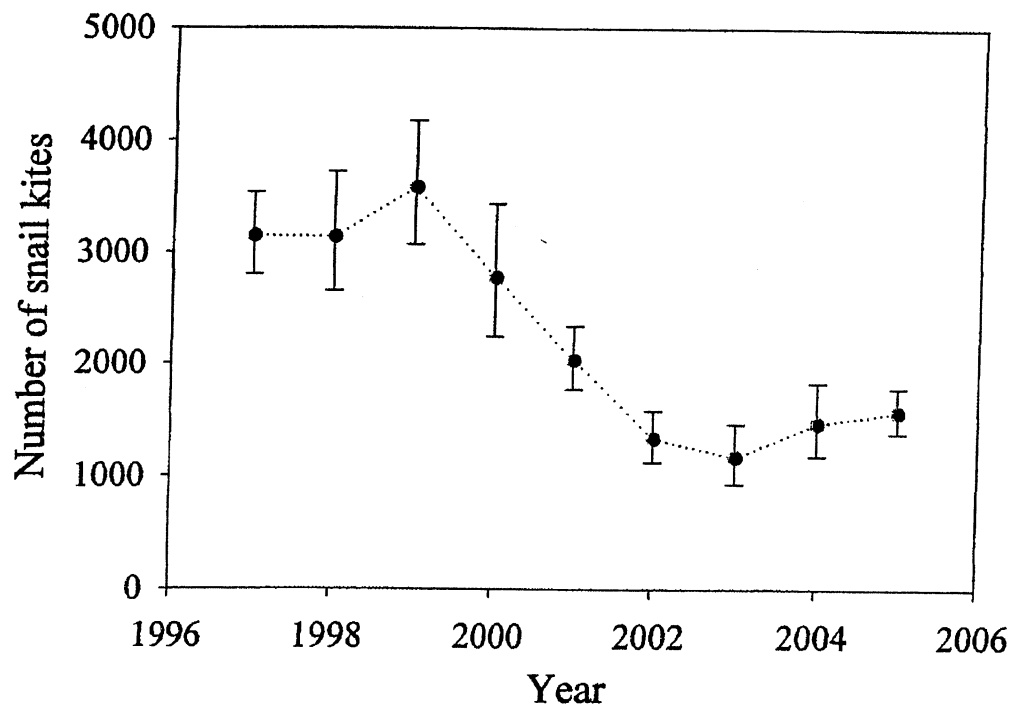


Figure 5. Number of young detected and banded: in the BCMC, Water Conservation Areas (WCA), Kissimmee Chain of Lakes (KCL), Lake Okeechobee, and all areas combined (total), between 1992 and 2005 (Martin et al. in review).

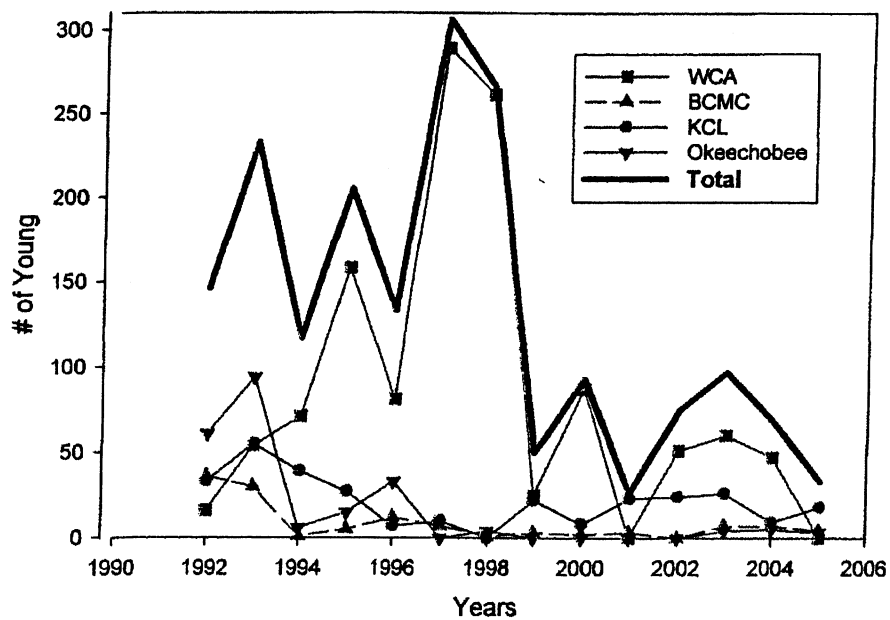
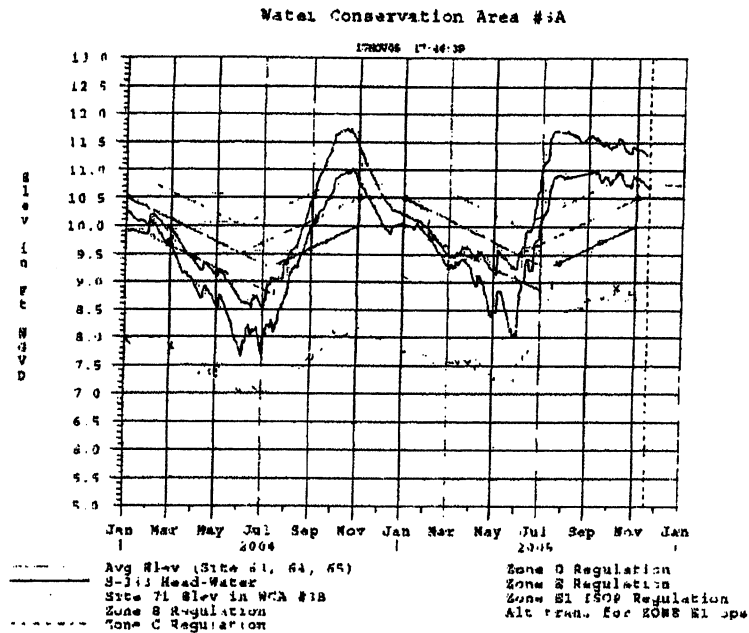


Figure 6. Water regulation schedule for WCA3A.



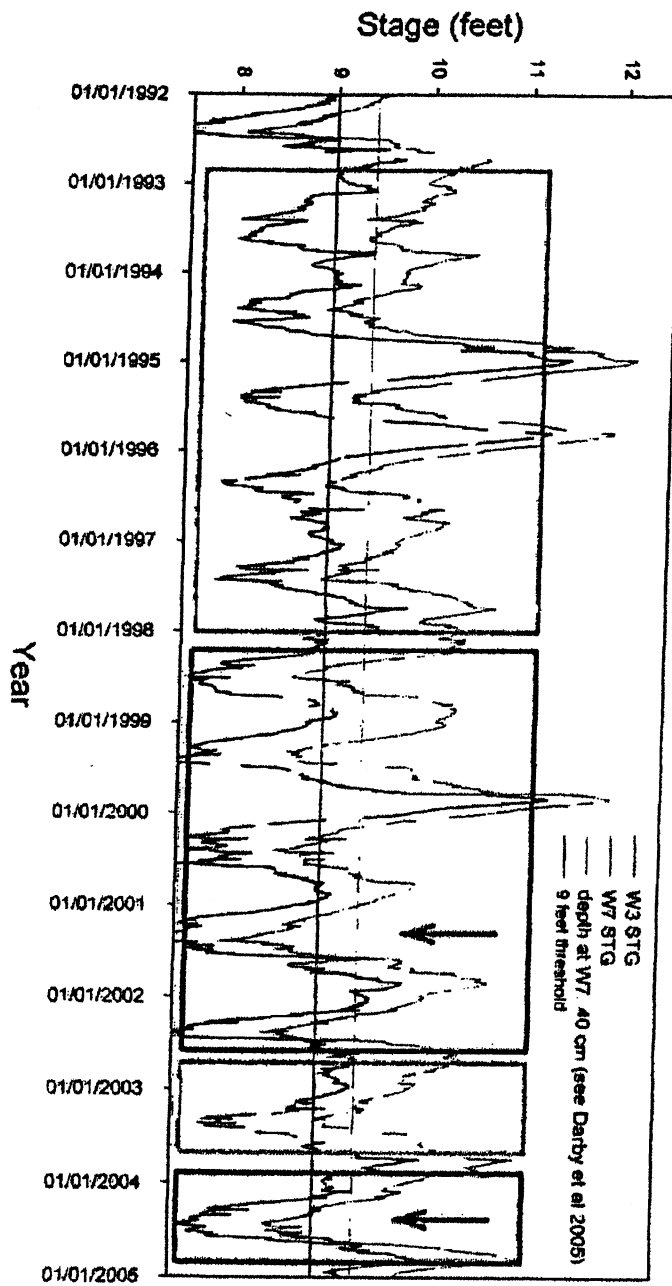


Figure 7. Water stage for WCA3A between 1992 and 2005. Green rectangles indicate "good" years during which high juvenile survival rates were observed; red rectangles indicate "bad years" during which juvenile survival and even adult survival rates were severely reduced. Arrows indicate prolonged drying events. Station W7 is a South Florida Water Management well, also referred to as 3ASJW1 (UTM NAD83/17R/ 522415E/ 2859895N). Station W3 is located at UTM NAD83/17R/ 521235E/2851974N (see Appendix 4).

Substrate type			
Region	"Woody" (%)	"Herbaceous" (%)	Region
E	97	3	E
KCL	30	70	KCL
SJM	77	23	SJM
OKEE	83	17	OKEE
WPB	88	12	WPB

Appendix 1. Proportion of nest substrate type (categorized either as "woody" or "herbaceous") used by the snail kite in the five major wetland complexes occupied by the kite in Florida between 1995 and 2004. Data prior to 1995 was not included because only a subset of the nest data was available (therefore including data from 1994 to 2005 would have biased estimates presented in Appendix 1). Regions E includes the Water Conservation Areas, Big Cypress National Preserve, and Everglades National Park; region KCL includes Lake Tohopekaliga, Lake East Tohopekaliga and Lake Kissimmee; region Okee corresponds to Lake Okeechobee; region SJM corresponds to St Johns Marsh; region WPB corresponds to West Palm Beach Water Catchments Area.

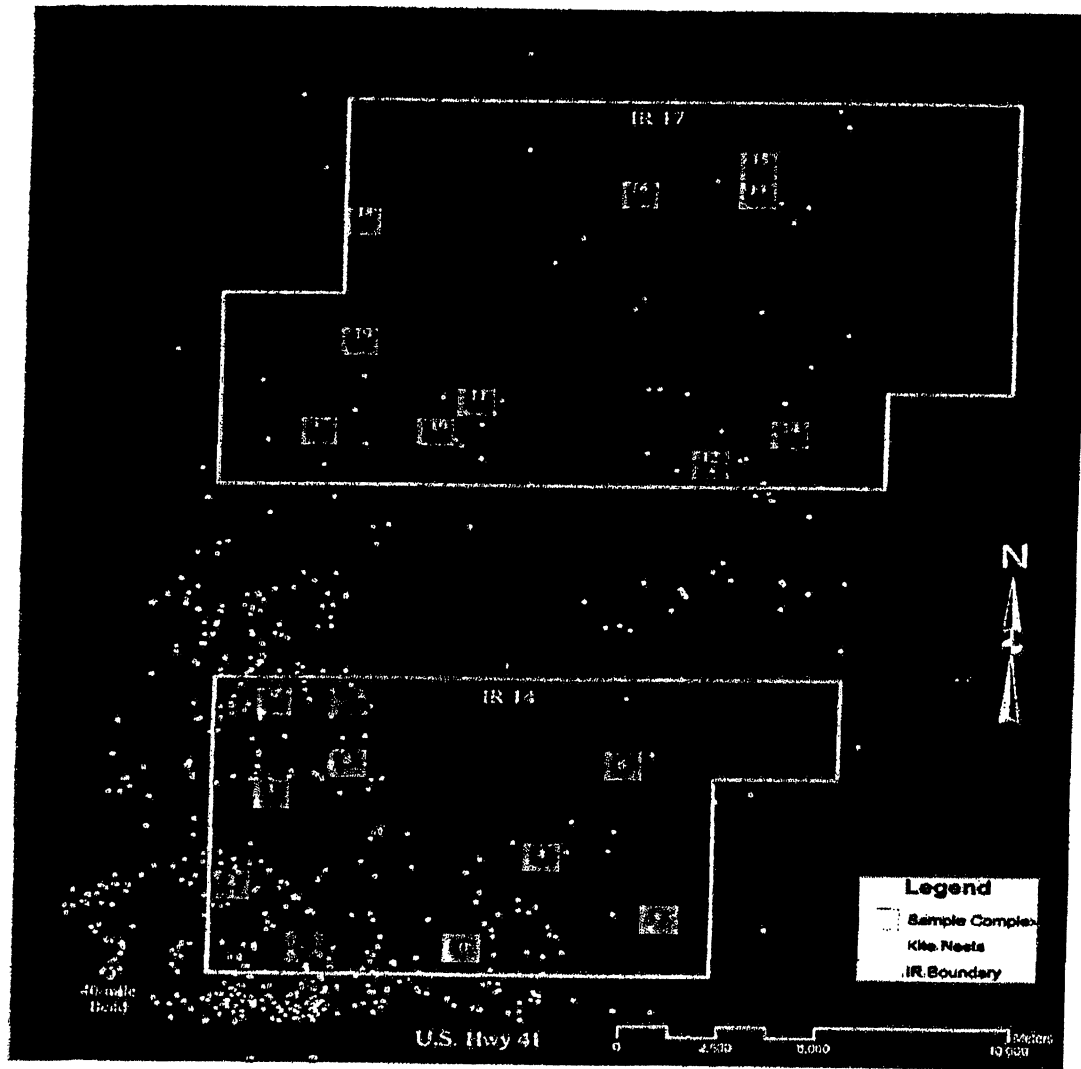
dates	Total banded	Total unband	Total Unknown	Total
25/02 – 20/03	44	357	62	463
21/03 – 10/04	45	363	57	465
10/04 – 27/04	41	283	48	372
01/05 – 14/05	35	237	49	321
18/05 – 06/08	51	247	22	320
11/06 – 27/06	30	175	17	222

Appendix 2. Number of banded birds identified (total banded id); number of banded birds (total band, include birds whose bands have been both identified and not identified); number of unbanded birds (total unband); number of birds whose bands have not been identified (total band unid); number of birds whose legs could not be examined and therefore could not be classified as either banded or unbanded (total unknown). This table includes both adults and juveniles (from Martin et al. in review)

dates	Total banded id	Total unband	Total
01/03 – 21/03	0	0	0
24/03 – 11/04	0	0	0
16/04 – 06/05	0	0	0
06/05 – 28/05	0	4	4
03/06 – 18/06	6	5	11
20/06 – 30/06	6	8	14

Appendix 3. Number of banded birds identified (total banded id); number of unbanded birds (total unband); number of birds whose bands have not been identified (total band unid); number of birds whose legs could not be examined and therefore could not be classified as either banded or unbanded (total unknown). This table includes only juveniles (from Martin et al. in review).

Appendix 4. Map of gauging stations W7 and W3 (green numbers) described in Figure 7.



**FINAL
ENVIRONMENTAL ASSESSMENT**

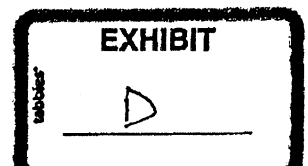
**1998 EMERGENCY DEVIATION FROM TEST 7 OF THE
EXPERIMENTAL PROGRAM OF WATER DELIVERIES TO
EVERGLADES NATIONAL PARK TO
PROTECT THE CAPE SABLE SEASIDE SPARROW**

**CENTRAL AND SOUTHERN FLORIDA PROJECT
FOR FLOOD CONTROL AND OTHER PURPOSES**

January 1999

**U.S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT, FLORIDA**

Note: All information in the Environmental Assessment of Test Iteration 7 of the Experimental Program of Water Deliveries to Everglades National Park, October 1995, is incorporated by reference.



January 28, 1998

DRAFT

ENVIRONMENTAL ASSESSMENT

Emergency Deviation from Test 7 of the Experimental Program of Water Deliveries to Everglades National Park to Protect the Cape Sable Seaside Sparrow

1.00 BACKGROUND PURPOSE AND OBJECTIVES

1.01 Endangered Species Act Consultation. In 1995, the Jacksonville District of the U.S. Army Corps of Engineers (Corps) consulted with the U.S. Fish and Wildlife Service (FWS) under provisions of the Endangered Species Act (Act) for the subject Test 7 project. By letter of October 27, 1995, the FWS provided a Biological Opinion (BO) that Test 7 would likely result in jeopardizing the continued existence of the Cape Sable seaside sparrow, a species listed as endangered under the Act. In particular, the sparrow subpopulation west of Shark River Slough (western subpopulation) has suffered a 90% decline in numbers over the past six years - from about 2700 birds in 1992 to about 270 in 1997. A record of this consultation was included in the October 1995 Environmental Assessment that was prepared for Test 7 under provisions of the National Environmental Policy Act (NEPA). Since completion of the 1995 BO, the FWS has identified significant new information that was not available previously and that reveals effects on the sparrow that were not considered in the BO. The FWS believes that the new information calls for immediate action to reduce adverse effects on both the sparrow and its habitat. To address this, the FWS and the Corps agreed to reinitiate consultation, under provisions of the Act, on the Experimental Program and the Modified Water Deliveries projects. This reconsultation is under development.

1.02 Remedial Action Plan. In the Test 7 BO, the FWS recommended a Reasonable and Prudent Alternative (RPA) to avoid "jeopardy" to the sparrow, consisting of several elements. One of these was the development of a Remedial Action Plan (RAP) that would identify actions and management interventions that could be taken if the status of the sparrow population declined during Test 7. At the Corps' request, the FWS agreed to take the lead in developing and coordinating the RAP. In September 1997, the FWS sent the Corps a revised Final Draft RAP that listed Category I actions that should be undertaken immediately to attempt to prevent the decline of the species. It also defined conditions that would trigger Category II actions that should be taken if the species were found to be declining. One of the triggers was a determination that water conditions in the sparrow's western habitat were not suitable for breeding, i.e., standing water between March 1st and June 15th each year. The Category II actions developed by the FWS to address the western habitat

The best engineering judgment of the Corps is as follows.

When the three-station average stage in WCA 3A reaches 11.25 feet, all four S-12 structures would be opened fully (see Plate 3).

This level represents the maximum stage that can safely be allowed without water management intervention. The 11.25-foot trigger represents an engineering cap based on public safety, not an environmental cap (see Appendix C for the rationale). This does not represent an attempt to balance adverse impacts to the sparrow against adverse impacts to the natural resources in WCA 3A. It is considered that the sparrow has statutory protection under the Endangered Species Act, while there is no counterbalancing statutory protection for the other resources. It should be recognized that 11.0 feet is the elevation of the top of the S-12 gates. Water levels above this would cause spillover of the S-12s, effectively nullifying any intent to further curtail flows into the sparrow's western habitat.

2.08 Alternative Operation of the S-12s. An alternative course of action was discussed during an interagency conference call on January 21st that called for a phased opening of the S-12s as follows.

When the three-station average stage in WCA 3A reaches 10.9 feet, S-12C and D would be fully opened. If water levels rise to 11.0 feet thereafter, S-12A and B would then be fully opened (see Plate 4).

This alternative might have provided some amelioration of adverse high-water effects on the natural resources in WCA 3A, but it cannot be acted upon because of objections from the FWS that any further releases from the S-12s would jeopardize the sparrow.

2.09 Actions to Address Increased Seepage from WCA 3B. Except for a small culvert structure (G-69) discharging into the Tamiami Canal, there is no existing outlet for water stored in WCA 3B. Evapotranspiration and seepage under and through the impounding levees is the only escape. Seepage is quite prominent and will have an effect on the stage in the Tamiami Canal and, particularly, the L-30 Canal on the eastern side. The following operations of the South Dade Conveyance System are being considered to facilitate conveyance of seepage water to tide (see Appendix B for more details).

a. Temporarily change the target stage in L-31W to 4.2 feet.

b. Operate S-151, G-69, and the L-67A gap closure using Site 71 criteria.

c. Move WCA 3B seepage from L-30 Canal via L-31N and C-111.

2.05 Actions to Divert Outflows Through Structures from WCA 3A away from Western Habitat. Structure S-151 was opened to design capacity on December 29th to move water out of WCA 3A and into WCA 3B. Structures S-12A and S-12B were closed on November 19th and 25th, respectively, and will remain closed for as long as possible. Structures 12C and S-12D are partially open, discharging at 350 cfs and 700 cfs, respectively, as of December 24th. Discharges will be made as described in the temporary deviation schedule for WCA 3A, Zone A1 (see Plate 3).

32,000 CFS
2.06 Action to Create a New Outlet from WCA 3A. Starting in July 1994, a Pilot Gap Test was conducted at the L-67 levees separating WCA 3A and WCA 3B. It consisted of cutting a 1000-foot gap in L-67A and L-67C to enable measurements of the hydraulics of water flowing through a gap. This information was to be used to develop a hydrologic model to simulate gap flow. The test had to be curtailed prematurely in September 1994 due to excessive water levels in WCA 3B from unusually heavy rainfall. The L-67A gap was closed and had not been opened since. As part of the emergency actions, this gap has now been re-opened as of January 14th with the objective of using it to move water into WCA 3B for storage. The previous criteria for closing the L-67A gap was a stage of 8.5 feet at the Site 71 gage (G-71) in WCA 3B. For the emergency action, this closing criteria has been increased to 9.0 feet until May 15th, when it will revert back to 8.5 feet. After the emergency period, the intent is to continue with the original Pilot Gap Test as described in the 1994 EA for the project. If at any time the closing criterion is reached and the gap has to be closed, a series of gated culverts would be installed in the fill material to allow flexibility to discharge water into WCA 3B in the future. This alteration to the original test would be coordinated with Florida Department of Environmental Protection (DEP).

2.07 Proposed Action to Reduce Discharges from the S-12s. A temporary emergency deviation in the WCA 3A water regulation schedule would be implemented to allow water levels to rise higher before the S-12s are used to attempt to curtail the rise. The present gate openings for S-12C and D would be maintained until that time. The higher limit for the schedule would continue until April 1st before transitioning back to the normal regulation schedule by June 1st. The existing authorized operation calls for all four S-12 structures to be opened fully when the water level rises to 10.75 feet at this time of year (see Plate 3). The FWS has declared that any opening of the S-12s greater than present would lead to failure of sparrow nesting and eventual extinction of the species. The inflexibility of that position precludes the Corps from taking action within its authority to protect habitat in the WCAs. However, at a point, because of the unacceptable risk of catastrophic failure of the structures and the associated potential loss of human life, the structures would have to be opened.

immediate acquisition [by DOI] of the Park expansion lands in NESRS and the condemnation or acquisition of private properties in the 8.5 SMA.

4.05 FWS Position on the Duration of the Emergency. In a conference call on January 20th, the FWS stated that, whether or not the sparrow is able to breed this season in the western habitat, efforts should be made to create water conditions in the habitat that would sustain the muhly grass vegetation. Extended hydroperiods cause the predominance of vegetation to shift from muhly grass to sawgrass: sparrows will not breed in sawgrass. Maintenance of muhly grass requires a two to three month dry-out each year. Studies in Taylor Slough have revealed that conversion to sawgrass occurs quickly (two to three years) under long hydroperiods, but it is not known how long it would take to revert back to muhly grass if shorter hydroperiods were reestablished. There has already been some conversion to sawgrass in the western habitat over the past several years. A long hydroperiod this year would cause further degradation that could lead to a failure of the sparrow to breed there in the future.

4.06 Consequences of Extending the Emergency. Including habitat considerations in the emergency actions could potentially extend the emergency actions by three months. If dryout had not occurred by April 15th, the sparrow breeding season would be over, but depending on rainfall, some dryout conducive to muhly grass could occur right up to the beginning of summer rains that signal the end of the dry season. This could be as late as July 1st, but is difficult to predict in advance. That would be three additional months of holding higher water in the WCAs, and the concomitant adverse effects on the natural resources therein.

The GFC (see letter of January 23, 1998 in Appendix A) anticipates that this action would have severe consequences in the WCAs. They state that, even fully opened, the capacity of the S-12s to lower water in WCA 3A is limited. Observations during the 1994-1995 high water events have shown that if high water levels are maintained through the dry season, then water levels in WCA 3A remain excessively high during the following wet season, thereby reducing the overall storage capacity of the WCA.

Not only would this situation exacerbate recent damage to the remaining native upland communities in WCA 3A, but it would also set the stage for a reenactment of the current emergency next year.

- f. Bird Drive Basin. Areas east of L-31N, represented by the cell at Bird Drive (G-3439), shows very little increase in stage or duration. The area represented by Krome (G-978), shows increased duration and wet season stages are increased 0.75 ft.
- g. 8.5 Square mile area. Cells in the 8.5 sq area could increase the above ground duration between 0.0 and 4.0%. For example, at Angels well, stages above ground stages may increase up to 1.5 inches.

Determination of Maximum Safe Water Level in WCA 3A.

In Part I, Supplement 33 General Design Memorandum for Conservation Area No. 3 (1960), it was noted one of the factors for establishing the regulation schedule and levee heights was the retention of marsh vegetation that would prevent large wind tides and waves from developing during hurricanes. It was determined that a marsh vegetation that could prevent wind tides could be retained with a seasonal regulation schedule varying between 9 to 11 feet. After consideration of other factors such as water supply and fish and wildlife resources, a seasonal regulation schedule varying from 9.5 to 10.5 feet was selected. Since 1985 the 9.5-10.5 foot WCA 3A regulation schedule was modified to include some additional zones. The regulation schedule varies from a high stages in the winter (dry season) to low stages in the beginning of the summer (wet season). Based on the assumption of marsh vegetation preventing wind tides, the levee design criteria in the GDM was to provide 2.5 feet of freeboard above the Standard Project Flood (SPF) profile, and about 4 feet above the period of record stage at that time. Rapid removal of flood storage in the WCA's is limited due to the slow movement of water in the densely vegetated WCA's. The relatively flat ground slopes and dense vegetation often lead to sloping pool conditions in the WCA's, and backwater effects.

Based on the Sloping Pool Storage curve for WCA 3A, there is about 525,000 acre-feet of storage available between the three station average WCA 3A stages of 11.25 to 10.00 feet. Between April 1st and May 31st, it would require about 4,300 cfs/day of outflow to remove 525,000 acre-feet of water stored in WCA 3A, not including any other inflows or direct rainfall. USGS flow data for the S-12s for the last 4 years indicate that, for an S-12 tailwater stage of 11 feet, a discharge of about 1500 cfs is possible at S-12D, about 1200 cfs at S-12C, about 700 cfs at S-12B, and about 900 cfs at S-12A. The Corps also reviewed as-built drawings for levees and structures in WCA 3A. Thus, based on this quick review of available data, the Corps' best engineering judgement at this time is that the proposed WCA 3A regulation schedule deviation shown in Plate 3 would not pose an unacceptable risk of failure of levees and structures in WCA 3A.

- c. The resulting overestimation in seepage in L-30 results in an increase in conveyance through L-31N, which estimates higher stages in areas to the east of L-31N.
- d. Flows of 460 cfs through G-69 (S-355) are probably in excess of actual field capacity which is limited by upstream conditions.
- e. The proposed temporary deviation to the WCA 3A regulation schedule shown in Plate 4, has been replaced by the temporary deviation to the WCA 3A regulation schedule shown in Plate 3. This regulation schedule will allow stages in WCA 3A to rise to 11.25 feet before opening all S-12 structures.

The model results are discussed below for the following areas: WCA 3A and 3B, areas east of WCA 3A and 3B, areas south of WCA 3A and 3B, and structures in the SDCS.

- a. Interior WCA 3A and 3B. In WCA-3A, interior stages and duration are relieved by the emergency gap through the L-67 A+C levee, which show flows greater than 2000 cfs based on a weir length of 1000 ft and crest elevation 7.0 ft. Likewise, in WCA-3B, interior stages are higher because of the gap. Overall, above ground durations are unchanged, except for ponding in the lower southeast corner. Note that this weir design in the model overestimates actual field flows.
- b. Western colony of CSSS. The area southwest of WCA 3A, represented by gage NP-205 show a decrease in above ground duration of 17.0% and decrease in above ground stages of 4.0 inches.
- c. Shark River Slough colony of CSSS. The area south of the L-67 ext., represented by a cell located south west of NP-206, shows a 12% shorter duration of above ground ponding and decrease in average stage of 4.0 inches.
- d. L-30. Structure S-335, was set to open when the headwater was greater than or equal to 7.0 ft. to move seepage water from WCA 3B via L-30 and L-31N. High wet season stages averaged about 7.5 ft. with peaks going as high as 8.0 ft, and early dry season stages (through March) where between 7.0 and 7.5 ft. The flow durations was longer and discharge increased by up 400 cfs.
- e. Structures in the SDCS. S-331 discharge increased 13.0% of the time with an average discharge increase of up to 100 cfs. S-176 shows a corresponding increase of 100 cfs but no increase in duration.

APPENDIX G
Options Considered

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OPTION 4

CONTINUE DEVIATIONS FOR LAKE OKEECHOBEE AND WCAS

I. OPTION.

This option provides for allowing water levels in Lake Okeechobee and the WCA's to continue to rise above established and/or previously altered schedules in order to avoid opening the S-12's.

II. DESCRIPTION. Under this option, the focus is to avoid discharging through the S-12's to the maximum possible, i.e. avoiding only a high risk to human safety. The water level in Lake Okeechobee would be allowed to rise and stay above schedule without discharging water to the south. Discharges from the Lake would be managed by maximizing discharges to the east and west. This would continue until the nesting season has passed or until the water level significantly exceeds the historical record of 18.8. At that point, discharges to the south would have to be made.

Water levels in the Water Conservation Areas would also be allowed to go above schedule. Specifically, the S-12 structures would not be opened when WCA 3 reached 11.25. In this case, water levels could continue to rise thus reducing the amount of flood storage available and increasing the risk of levee failure.

III. IMPACTS.

A. BENEFITS. The primary beneficiary of this option continues to be the Sparrow nesting area south of WCA 3A. Through continued deviation from normal operating schedules, water releases through the S-12 structures would not be increased above the present 1000 cfs level. This maximizes the chances for reducing water levels in the nesting area, thus increasing the potential for a successful nesting season. There is also a slight beneficial effect on the 8.5 Square Mile Area (SMA) due to the reduced discharges from the S-12's.

B. ADVERSE IMPACTS. The continued deviation from established schedules under the above conditions of minimizing discharges south would increasingly tax the operation and capability of the system, especially for the upcoming wet season. Target elevations for the beginning of the wet season would probably be exceeded thus even further reducing the system's capability to respond to events. Also, continued high water levels throughout the system are having an adverse impact on established vegetation communities and other wildlife as well as the religious ceremonies of the Native Americans in the area. Some of these impacts would increase in severity as the summer months with higher temperatures approached. In addition, the longer continuation of the above normal discharges to

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the east and west from Lake Okeechobee would increase the adverse impacts on the estuary system at each coast.

A more significant issue is the increased risk to human safety due to higher water levels in both the Lake and WCA's. Higher water levels during the wet season reduce the flood control capacity of the system. In particular, a higher initial stage at Lake Okeechobee increases the risk of potential dike failure during a severe rainfall and storm event. The Dike around the Lake has been under investigation for several years for stability concerns during high water periods. Increasing the lake level above the Zone A stage of 18.5 increases the risk of levee failure. If the levee failed, widespread flooding of surrounding areas would be experienced. Evacuation of homes and businesses would be required as well closure of many roads and public services. Due to the expected characteristics of a probable failure, evacuation of residents would be possible, there does exist a potential for loss of life associated with the event. *

In WCA 3A, higher levels would similarly reduce the flood capacity of the area. A significant event, 100 year flood, could cause a failure of a part of the containment levee. The impacts of such a failure would be directly dependent on time and location. A failure to the south would inundate US highway 41, thus posing an immediate threat to any motorists. A failure to the north would inundate a substantial agricultural area causing significant economic loss. *

IV. OTHER CONSIDERATIONS.

A. TIME TO IMPLEMENT. Continued deviation such as considered here would require additional approval from the South Atlantic Division Office of the Corps. Considering the implications of this deviation, approval could be take several days or more. Again, the return to standard operating procedures could be done very quickly as trigger points were hit in the system. However, due to the large areas involved, water levels would take a long time to recede to normal levels.

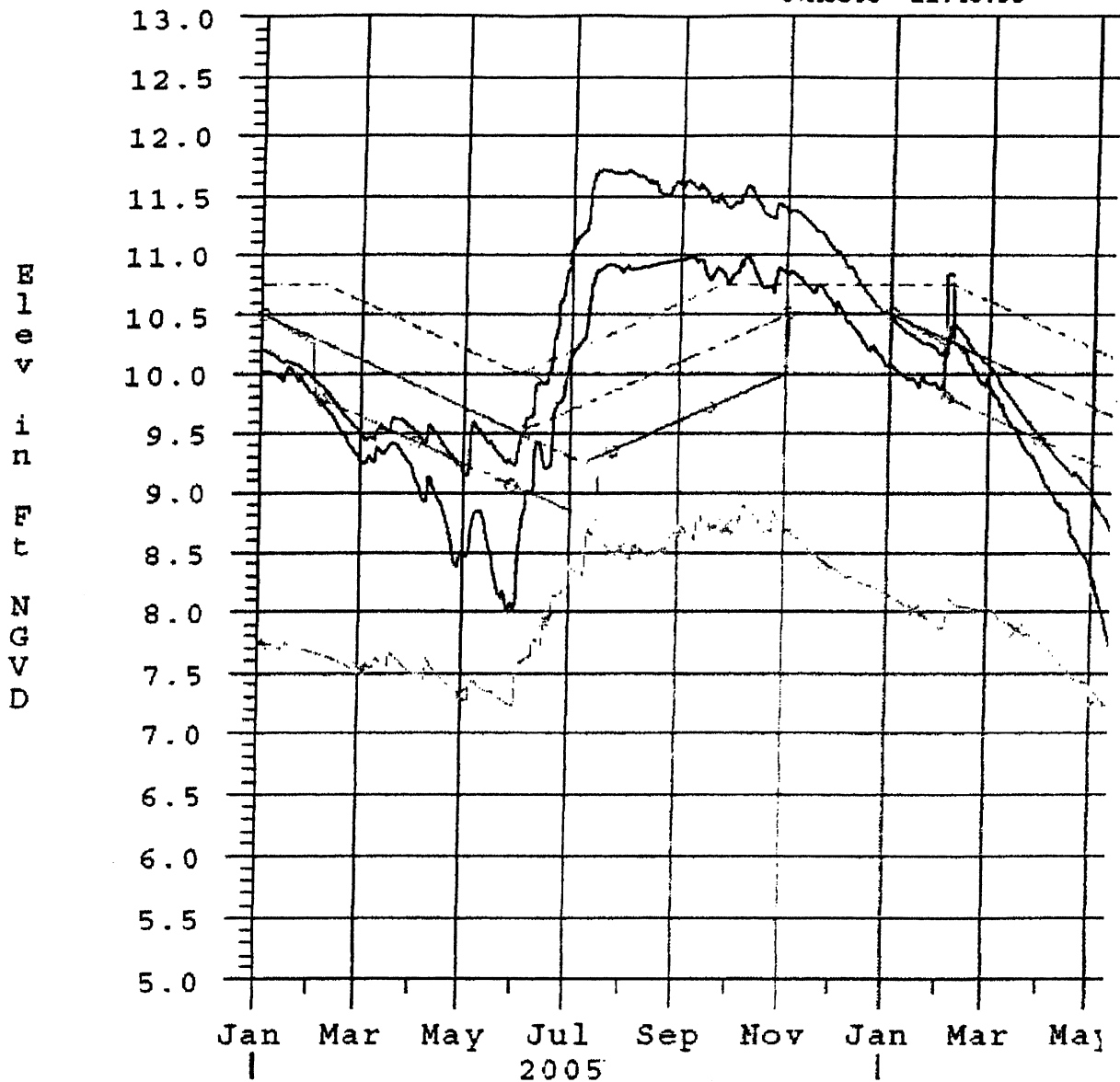
B. LEGAL CONSIDERATIONS.

Also, by allowing the level in Lake Okeechobee and the WCA's to continue to rise, the authorized flood protection of the project is being reduced thus increasing the risk of flooding to protected areas.

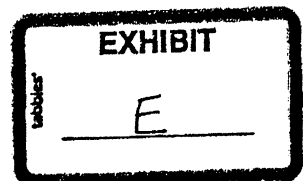
C. OTHER. This option represents the most significant increase in threat to human safety, property, and potential loss of life.

Water Conservation Are

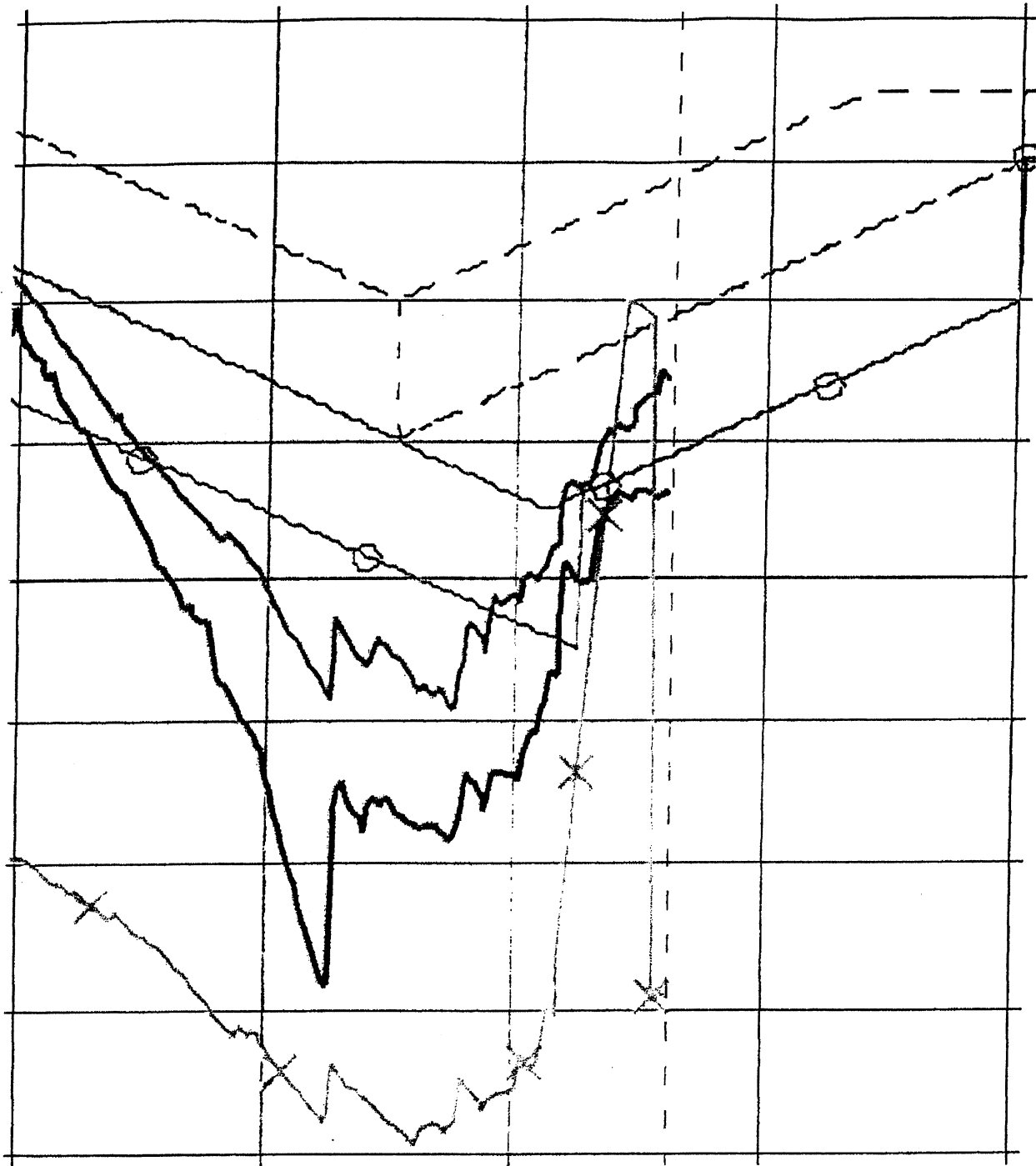
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————— Avg Elev (Site 63, 64, 65)
 ————— S-333 Head-Water
 —x— Site 71 Elev in WCA #3B
 - - - - - Zone B Regulation
 - - - - - Zone C Regulation



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THE PRESENT AND FUTURE OF THE CAPE SABLE SEASIDE SPARROW

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Abstract.—Seaside Sparrows (*Ammodramus maritimus*) breeding in the Everglades region belong to a morphologically distinct subspecies (the Cape Sable Seaside Sparrow, *A. m. mirabilis*). This population is isolated from the other races of the Seaside Sparrow, the closest of which, the Scott's Seaside Sparrow (*A. m. peninsulae*), is found 300 km north. Other than appearance, the only significant difference between the Everglades subspecies and its relatives is in habitat use. Unlike other Seaside Sparrows, most of which live in salt marshes, the Cape Sable Seaside Sparrow now appears to be confined to freshwater sites.

The history of the Cape Sable Seaside Sparrow is fragmentary. Populations have frequently disappeared, and the same or other populations have been rediscovered in widely separated areas, often many years later. These long-range shifts in distribution, if real, appear to have been in response to the fluctuations that characterize the temporally unpredictable environment of the Everglades. Disturbances such as fire and hurricanes have caused shifts in population distributions, and also long-term modifications of sparrow habitats.

Since the research of Harold Werner, initiated in 1970, several studies have been conducted in an attempt to determine the number of sparrows remaining, and to gather information about their demography. Werner estimated that 2,000-3,000 birds remained in 1974-1975. In 1981 the population was again surveyed, and it was estimated that 3,300 male sparrows remained. In 1991 the survey was resumed. Although referred to as the "extensive" survey, it has not completely covered all potential habitats of the species, nor even the original 1981 census points.

Data collected from a limited number of birds indicate that the Cape Sable Seaside Sparrow has high reproductive potential: females can produce up to nine fledglings per year. Survival rates are high: on average, at least 60% of adults survive from year to year. Preliminary radiotelemetry studies indicate that juvenile sparrows can disperse long distances from their natal sites.

Based on the results of the extensive surveys, claims have been made that the subspecies is decreasing. These results do not fit a population model that incorporates high fecundity and survivorship, as well as extensive juvenile dispersal. This contradiction

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may be clarified when valid survey data are available, and after more detailed demographic information has been gathered.

The main Cape Sable Seaside Sparrow population now appears to live in muhly (*Muhlenbergii filipes*) prairie east of Shark River Slough. Although the recovery plan states that muhly prairie is the "preferred" habitat of the subspecies, information about nesting habitats that the birds have used in the past suggests that muhly prairie is simply the habitat into which the sparrow has moved most recently. Management decisions to enhance the recovery of the Cape Sable subspecies are based on the results of the extensive surveys, and on the corollary assumption that muhly is the optimum habitat for the subspecies. For the most part, recovery efforts since 1975 have focused on controlling one environmental factor (water level) that affects sparrow distribution in this one habitat type. If the prediction of the government research, that the subspecies may become extinct within 20 years is true, then immediate intervention is warranted. Strategies such as relocation, captive-rearing, localized flood control, and predator control are recommended. Federal agencies responsible for the recovery of the sparrow have been unwilling to take such actions in its behalf.

The Seaside Sparrow (*Ammodramus maritimus*) occurs in small, localized populations along the Atlantic and Gulf coasts of the United States, from southern Maine to Texas (Werner and Woolfenden 1983, Post and Greenlaw 1994, Brinker 1997). Most breeding birds are confined to tidal marshes. Some have moved farther inland, to colonize freshwater marshes, as, for example, on the Hudson River in New York (Bull 1964), the St. Johns River in central Florida (Nicholson 1929), Taylor Slough of the Everglades region (Ogden 1972). Despite their use of freshwater habitats, the biology of the inland populations appears to differ little from that of birds living in tidal marshes, where the species is believed to have evolved (Beecher 1955).

Largely because of the alteration of coastal wetlands by humans, the Seaside Sparrow has disappeared from many parts of its range (Kale 1983, Greenlaw 1992). The highly distinct Dusky Seaside Sparrow has recently become extinct, and other subspecies distributed along the Gulf of Mexico are classified as threatened or of special concern by conservation agencies. The Cape Sable Seaside Sparrow is the most isolated of the five subspecies that occur in Florida. The distance between this race and the Scott's Seaside Sparrow (*A. m. peninsulae*) is 300 km.

Like the inland population of the Dusky Seaside Sparrow (*A. m. nigrescens*), the Cape Sable Seaside Sparrow occupies inland freshwater marshes. Decreases in the Cape Sable subspecies have been caused by wide-scale alterations of its habitat, including introductions of exotic plants, unnatural water regimes, and large-scale fires. The interactions of these factors make the conservation and management of the Cape Sable Seaside Sparrow difficult (Kushlan et al. 1982). The subspecies was listed as endangered in 1967. It has been the object of much recent research.

The purpose of this paper is to review the biology of the Cape Sable Seaside, and to discuss its management in light of what is known about

the species as a whole. Such a review is necessary at this time because recent publications and reports (Curnutt et al. 1998; Nott et al. 1998; Pimm 1995, 1996, 1997, 1998, 1999) do not consider previous research findings on the species as a whole, nor research on the Cape Sable Seaside Sparrow itself (Kushlan et al. 1982, Kushlan and Bass 1983, Werner 1975, Werner and Woolfenden 1983). This failure has led to misinterpretations of the subspecies' biology, and, consequently, to management failures.

ARE THE "EXTENSIVE" SURVEYS EXTENSIVE?

The Cape Sable subspecies is limited to the southern tip of Florida (Collier, Monroe and Dade Counties) in a roughly rectangular 700 km-sq area. Historical information shows that it was widespread and occupied several habitat types, although it took many years for ornithologists to discover new populations in the difficult terrain occupied by the sparrows. Once found, breeding groups ("colonies") were difficult to relocate. The disappearing breeding groups either had been extirpated or had moved to new areas. Population shifts may have been gradual, in response to successional changes, or abrupt, as a result of catastrophic habitat changes. Several widely-spaced populations have been found existing at the same time, and specific localities may hold sparrows for a few years, the birds then disappear, and the same or another group reappears elsewhere.

At the time of its discovery the Cape Sable Seaside Sparrow was thought to be restricted to brackish marshes in the Cape Sable area. It is possible that it also occupied other areas and habitats in extreme southern Florida. Since 1928 the subspecies has been documented as occurring regularly in three other areas of the Everglades region: Southern Big Cypress (Nicholson 1928), Ochopee (Anderson 1942), and Taylor Slough and the eastern side of Shark River Slough (Ogden 1972). Since 1992, surveys have been conducted over some parts of the subspecies' range, but details of the current status of the various populations have not yet been published.

Based on surveys conducted in 1974-1975, Werner (1978) attempted the first estimate of the entire population. Extrapolating to the area of known occurrence from densities that he found on measured plots on Taylor Slough, he estimated the total population to be 2,000 to 3,000 birds. This estimate assumed that the Taylor Slough birds made up 95% of the subspecies' numbers.

Kushlan and Bass (1983) conducted an extensive survey in 1981, using fixed-radius point-counts (Hutto et al. 1986). The original extensive survey (Kushlan and Bass 1983) did not cover all potential breeding areas although they assumed that the sparrows were uniformly distributed, and that the population density of each survey point accu-

ately reflected that which prevailed in 1 km². They thus assumed that each male represented a group of 16 pairs. They estimated the total population to be 6,600 birds. They speculated that the estimate represented a high point in a fluctuating population cycle, which was related primarily to the occurrence of fires.

In 1992, after a 10-year hiatus, the surveys were resumed in the same areas as the 1981 surveys (Curnutt et al. 1998), but coverage has been incomplete every year (mean percentage of 1981 points covered during 1992-1998 = 63%, range 22-93; Table 1). The historical range of the subspecies has not yet been completely surveyed. It is frequently stated that the surveyors periodically check other potential breeding areas outside the traditional survey area but no documentation of such spot checks has been published. Given the history of the sparrow's unexpected appearances in far-flung areas of the Everglades, it is advisable to conduct surveys over a wider area, because it cannot be safely assumed that the subspecies is confined to marl prairie, and that it does not disperse from unsuitable habitats.

The logistical difficulty of the Everglades environment has been cited as the reason the surveys have been incomplete. The survey is certainly a difficult endeavor, but perhaps it should take priority over less critical data-gathering, most of which, other than the results of radio-tracking, has produced little new information about the subspecies. Determination of the actual population size and distribution of the Cape Sable Seaside Sparrow is the most critical need at this time.

ARE THE POPULATION ESTIMATES RELIABLE?

It is difficult to provide a definitive estimate of total population size because the surveys did not cover all potential breeding habitat. How-

Table 1. Number of male Cape Sable Seaside Sparrows recorded in 1981 and succeeding years on the same plots. Sample plots that were invaded by trees ($n = 30$) were excluded for all years. Data from Kushlan and Bass (1983) and Pimm (1995, 1996, 1997, 1998).

Year	No. of points	Percentage of 1981 points	No. of males
1981	813	100	387
1992	757	93	368
1993	618	76	189
1994	181	22	survey incomplete
1995	505	62	159
1996	497	61	no data available
1997	486	60	225
1998	553	68	160

ever, annual reports submitted to Everglades National Park provide a rough index of total population numbers. These population estimates, based on extrapolations from the point counts (Table 1), show wide fluctuations between years within the different areas. The overall male population size was said to have remained stable between 1981 and 1992. Between 1992 and 1993, the population estimate fell by 50%. In 1993, surveyors counted 207 males (extrapolated to 3,312; Table 2) a reduction of 50% from the previous year. Many areas were not surveyed in 1993, however (Table 1; Curnutt and Pimm 1993). During 1994-1995, the overall population estimate remained about the same: 2,416-2,720 males. Between 1996 and 1997, the population increased, and then decreased the next year. By 1998, the estimate had fallen to 3,056 males, at about which level it has remained through 1999 (Pimm 1999).

Most of the population fluctuations have been due to variation in the size of the large group of birds north of the Ingraham Highway (Population "B"), which decreased by 11% (1995-1996), increased by 50% (1996-1997), and then decreased by 36%. The wide fluctuations in the estimated size of population "B" were likely caused by either sampling error or movements of males.

Although crude estimates of population size may have heuristic value on a year-to-year basis, it is not possible to make conclusive comparisons of population numbers between years, based on inferential statistics. This is because the point counts upon which the estimates are based are not independent of each other, in either space or time. Comparisons between years based on the samples are examples of "pseudoreplication" (Hurlbert 1984). The methodology used to estimate total population size is based on invalid assumptions, and therefore the results cannot be used to model population dynamics for the following reasons.

Table 2. Population estimates of male Cape Sable Seaside Sparrows in the Everglades region, 1981-1998 for each geographical area. Estimate obtained by multiplying number of males seen by factor of 16. Based on data provided by the U.S. Army Corps of Engineers (1998). Data for 1999 and 2000 not available.

Area	1981	1992	1993	1994	1995	1996	1997	1998
A	2,688	2,608	432	80 + *	240	272	272	192
B	2,352	3,184	2,464	2,224	2,128	1,888	2,832	1,808
C	432	3	0	**	0	48	48	80
D	400	7	96	**	0	80	48	48
E	672	37	320	112	352	208	832	912
F	112	2	0	**	0	16	16	16
Total	6,656	6,576	3,312	2,416 + *	2,720	2,512	4,048	3,056

*Survey incomplete.

**No survey.

Assumption 1. All males are recorded. The sampling procedure does not account for seasonal or diurnal variation in males' behavior. For example, male Seaside Sparrows may spend up to 32% of their time singing before the arrival of a female on territory. When young are in the nest, singing time decreases to 4% of the daylight period (Post 1974). The Cape Sable Seaside Sparrow has an extended breeding period (February-August; Werner and Woolfenden 1983). Most surveys have been conducted from late April to early June. This leaves unsampled two five-to-six week periods at the beginning and end of the breeding period. Until the summer of 1999 each plot was visited only once per year. It is possible that any bird remaining on its activity space during a flood that occurs early in the breeding season will wait until waters recede, and then nest, or move to higher ground, or build its nest higher (Tomkins 1941). Seaside Sparrow nests in tidal areas are frequently flooded, often several times in a season. Pairs whose nests are flooded immediately resume retesting (Greenlaw 1983, 1992).

Assumption 2. The surveys assume that males are distributed randomly, and therefore the probability of encountering a bird is the same at each of the census points. However, previous studies have demonstrated that territorial male Seaside Sparrows are often clustered. Large areas of suitable habitat are unoccupied, while in nearby areas sparrows occur at high population densities (Post 1974). Extrapolation from point counts underestimates population sizes in areas where sparrows are clumped (Curnutt et al. 1998).

Assumption 3. Sparrow activity spaces do not overlap. When feeding, Seaside Sparrows range widely outside their territories and may make foraging flights of over 1 km. This results in a pattern of overlapping activity spaces, which has been reported for Seaside Sparrows occupying tidal (Tomkins 1941) and non-tidal areas (Sykes 1980).

Assumption 4. Each male is mated. But, the proportion of unmated male Seaside Sparrows varies widely between breeding groups (23-60%; Greenlaw and Post 1985). At Taylor Slough in 1974, 12% of males remained unmated through the breeding season; 11% in 1975 (Werner and Woolfenden 1983). The variation in incidence of unmated males between populations appears to be related to habitat suitability (Greenlaw and Post 1985).

Assumption 5. Only areas that are surveyed have Seaside Sparrow breeding populations. The history of the intermittent disappearance and rediscovery of Cape Sable Seaside Sparrows in different areas of southern Florida (Kushlan and Bass 1983, Werner and Woolfenden 1983) argues against the validity of this assumption, however. The subspecies also displays an opportunistic response to the geographical-habitat array (Curnutt 1996), and may abandon and later recolonize

specific areas, depending on water levels (Werner 1975, Werner and Woolfenden 1983, Lockwood et al. 1996). This assumption can be tested only by increasing the area of coverage of the surveys.

A final problem comes from the manner in which the population estimates are presented (Anonymous 1997). Each year an estimate of total population size is provided, without any indication of the precision of the results. Using just the count of birds detected per unit effort as an index of abundance is neither scientifically sound nor reliable (Burnham 1981). Readers cannot make independent evaluations of the data. We would have a better understanding of the estimates if we were provided with confidence intervals. Further, the complete results of the surveys should be published and the assumptions and methodologies specified. Annual reports state that the results are not final (Pimm 1998), but the results are used as the basis for management decisions and government position papers (Anonymous 1997, 1999).

IMPROVING THE SURVEYS

The reliability of estimates made from circular plots depends on how potential sources of variation (e.g., among years, within season, habitat associations, and space use) are treated. When the survey was reinitiated in 1992, the researchers continued to use the preliminary sampling procedures of Kushlan and Bass (1983). It would have been advisable, instead, to design statistically meaningful sampling techniques such as, 1) random placement of point counts among years within regions; 2) within year replications; 3) distance sampling (Buckland et al. 1993); 4) calibration of detectability, according to observer and habitat (Bennetts et al. 1999). Curnutt et al. (1998) tested the reliability of the census technique by comparing the number of birds known to be present on measured census plots with those estimated to be present from point counts of the same areas. Their results indicated that the point counts underestimate actual numbers present by 36%.

The American Ornithologists' Union Cape Sable Seaside Sparrow panel (Walters et al. 1999) stated that because of its shortcomings, the current survey methodology is of limited utility in drawing inferences about population trends. The panel recommended that the census takers determine what proportion of males are actually singing at a given time, and use this information to correct the estimates. It was also recommended that the survey teams determine what proportion of males are actually mated. The panel also urged that the surveys be conducted over a larger area. Despite these recommendations, the surveyors have continued to cover a limited area of the subspecies' potential range, and the annual reports continue to provide uncorrected population estimates (Pimm 1999). As the survey methods were flawed in the past,

and continue to be flawed, they cannot be used to estimate accurately the population size, nor say anything definitive about the long-term population trends of the subspecies.

IS THE CAPE SABLE SEASIDE SPARROW A HABITAT SPECIALIST?

Seaside Sparrows occupy tidal marshes or nearby freshwater marshes (Kale 1983, Robbins 1983), but with a discontinuous, local distribution (Greenlaw 1983, 1992). The physiognomy of vegetation used by the species varies, and reflects opportunism in using available substrates (Greenlaw 1983). Requirements shared by most breeding populations are: first, elevated nest sites that provide protection from periodic tidal and storm flooding; second, nearby openings in vegetation, such as pannes, pools and creek edges, which allow birds to forage on open mud, and at the bases of rooted vegetation. Optimum habitats contain contiguous nesting and feeding sites; otherwise, birds commute between nest-centered territories and distant feeding areas (Woolfenden 1956).

The Cape Sable subspecies was first described as occupying brackish marshes ("salt grass", *Distichlis spicata*), and adjacent, presumably less saline marshes dominated by "switch grass" (*Spartina bakeri*) in the southwestern part of its range (Stimson 1968). The structure of this habitat is similar to that occupied by other subspecies (MacGillivray's, Scott's, and Dusky). After the hurricane of 1935, populations of sparrows were found nesting in similar habitat north of Cape Sable, along the western mangrove fringe, north to Ochopee.

Within the last two decades (Werner and Woolfenden 1983), Cape Sable Seaside Sparrows have been described as living in four distinct habitat types: 1) clumped *Spartina* prairies, 2) unclumped *Spartina* prairies, 3) sparse sawgrass prairies, 4) muhly prairies. In addition to these four habitat types, Kushlan and Bass (1983) describe a "mixed prairie habitat", which appears to correspond to sparse sawgrass prairie.

The majority of the surviving sparrows are now believed to nest in muhly prairie, mainly on marl in areas east of Shark River Slough. Before Ogden's (1972) rediscovery of Seaside Sparrows in the Taylor Slough area, and Werner's (1975) research, muhly was not reported as a nesting substrate, and Davis (1943) did not mention the species as a component of the marl prairies where the sparrow now occurs. It has been claimed that the muhly prairies now existing east of Shark River have been propagated by man-influenced reduction in water levels, coupled with the destruction of shallow organic soils by drought fires (Craighead 1974).

A Department of Interior position paper (Anonymous 1997) and the Cape Sable Seaside Sparrow recovery plan (Anonymous 1999)

state that the preferred habitat of the subspecies is mixed marl prairie. It is incorrect, however, to refer to a habitat as "preferred" on the basis of correlational patterns alone (Wiens 1989). Seaside Sparrow densities vary widely even within the same habitat, and reproductive potential is density-independent (Greenlaw and Post 1985).

It is possible that, because of degradation of the coastal and interior *Spartina* prairies that were once occupied by the sparrows, the subspecies is now breeding in the remaining vegetation that is most similar in structure to *Spartina* (Mayer 1998). It is possible that marl prairie may represent a marginal habitat for the subspecies. Reports that sparrows occupying this habitat in the last decade have low annual survival support this hypothesis (Pimm 1995). Similarly, the prairie marshes on the St. Johns River that were occupied by the Dusky Seaside Sparrow may have been marginal habitat. Unfortunately, although some information was gathered about the Dusky Seaside Sparrows in salt marshes on Merritt Island (Trost 1968, Sykes 1980), little was learned about the prairie-nesting sparrows (Baker 1973, 1978).

DOES THE CAPE SABLE HAVE LOWER SURVIVAL RATES THAN OTHER SEASIDE SPARROWS?

Using an estimation method presumably similar to that of Werner and Kushlan, and data on 18 birds followed over two years, Pimm (1995) estimated a minimum adult male survival rate of 50%. From 1994 to 1996, Pimm (1996) banded 122 sparrows. Only 29% of these were seen or caught by the end of the 1996 research season. He reported that adults that had nested in a given area had an annual survival rate of 100%, while those that did not nest had an annual survival of 38% (Pimm 1996).

In contrast to the low survival estimates provided by Pimm (1995, 1996), Werner (1975) estimated minimum annual survival as 88%. Based on additional information from the same study population, Kushlan et al. (1982) provide an annual adult survival estimate of 90%.

Over two years, Post et al. (1983) studied a color-marked population of Seaside Sparrows nesting at Gulf Hammock, Florida, and estimated annual adult male survival at 86%. Additional annual survival estimates for different cohorts from this population are above 80%. Some individuals have survived for nine years (Post and Greenlaw 1994). The 50% survival rate provided by Pimm is clearly anomalous.

THE CAPE SABLE SEASIDE HAS HIGH REPRODUCTIVE POTENTIAL

The measurement that is used to estimate reproductive potential, the number of young per female per year, is higher for this subspecies

than for other population of the Seaside Sparrow. Two published papers (Werner and Woolfenden 1983, Lockwood et al. 1997), and two unpublished reports include information on the nesting success of the Cape Sable Seaside Sparrow (Werner 1975, Fenn 1997). Based on an average of four data sets (Fenn et al. 1997), total nesting success (percentage of eggs that produce fledglings) was estimated at 64%, which is much higher than that reported for Seaside Sparrows at Gulf Hammock, Florida (3%; Post et al. 1983), and higher than that on Long Island, New York (35%; Post et al. 1983).

The mean clutch size of *mirabilis* is 3.5 (Post and Greenlaw 1994), compared with a clutch size of 3.1 in *peninsulae* (Gulf Hammock, Florida) and 3.1 for *macgillivraii* (southeastern Atlantic coast; Post and Greenlaw 1994). Female Seaside Sparrows may initiate as many as four clutches per season. The core period of the nesting cycle is 25 days: four days for deposition of eggs, 12 days for incubation (incubation may start with the laying of the penultimate egg), and nine days during which young are in the nest (Werner 1975, Post and Greenlaw 1994). Males may feed fledglings alone, and females may initiate a new clutch before the old one has fledged (Marshall and Reinert 1990, Werner and Woolfenden 1983). Nest construction usually requires 3-4 d. Therefore, it is possible that a new cycle can start within 30 d of the completion of the preceding clutch. This agrees with Werner (1975) and Marshall and Reinert (1990). If females are physiologically capable of producing four clutches per season, and if nest mortality rates are low, most pairs should be able to produce at least three broods within a 125-d period.

Length of breeding season in *mirabilis* may exceed 150 d (Werner and Woolfenden 1983). If the first nesting cycle requires 35-40 d, and each succeeding cycle requires 30-35 d, and assuming that reproductive success is 64% for each nesting attempt, it is possible for a successful female to produce nine fledglings per season.

IS FLOODING OR PREDATION THE MAIN CAUSE OF NEST LOSS?

Little is known about the causes of nest loss in the subspecies. Although the sampling schedule of the nest-searching program has not been published, efforts appear to have been concentrated in the study areas north of the Ingraham Highway (area "B") during April-June. In a few cases, Werner (1975), Lockwood et al. (1997) and Fenn et al. (1997) inferred causes of mortality to nest contents. At Taylor Slough, 4 of 55 eggs were depredated (7%), and 9 of 55 (16%) failed to hatch. Predation was confirmed during the nestling stage (seven young lost); Werner listed no other causes of mortality for nestlings. Lockwood et

al. (1997) reported that 2 of 36 eggs with the opportunity to hatch failed to hatch, 2 eggs were flooded, 3 young were flooded, and 1 nestling presumably starved. Overall, 78% of all losses of young and eggs were attributed to predation. Lockwood (1998) reported that predation accounted for 92% of all nest losses in 1998. No nests were lost to floods, and no other sources of mortality were listed.

Based on the assumption that higher water levels lead to lowered reproductive success, Nott et al. (1998) claimed a relationship between water levels and population decline. However, in 1997 birds breeding west of Shark River Slough (the most flooded area) had the highest nest success of any of the populations (75%, versus 66% for the other subpopulations; Pimm 1997).

In contrast to statements (Anonymous 1997) that nesting ceases during flooding, Dean and Morrison (1998) found that clutches were initiated during periods of high water (depth >10 cm). The water depth under some nests with eggs or young was 20 cm. They found evidence of successful nestings near the end of July and into August, during periods of high water. Dean also found a flightless young sparrow in early August, after a period of high water. Although they did not estimate the proportion of nests that were successful, their finding that at least some nests were successful refutes the hypothesis that all nesting ceases when water levels begin to rise (Anonymous 1997).

In 1996-97 Lockwood (1998) found peaks in the seasonal pattern of predation, which were correlated with rises in water level. No such peaks were found in the 1998 nesting season, which was attributed to lack of surface water (Lockwood 1998). The species of predators were not determined, although snakes were mentioned as possibilities. It was not explained how high water led to increased snake activity. It has been shown, however, that rodent movements in the Everglades are affected by fluctuations in water levels (Smith and Vrieze 1979). Nest survival of Seaside Sparrows in other areas of Florida is affected by rice rat (*Oryzomys palustris*) predation (Post 1981). Despite this information, and after nine years of research, no attempt has been made to determine the species or numbers of predators in the Cape Sable Seaside Sparrow nesting areas.

IS THE SPARROW SEDENTARY?

Our inability to track dispersal prevents us from understanding population dynamics at the landscape level (Faaborg et al. 1998). As yet we have little information on juvenile dispersal of the Seaside Sparrow. Recent radio telemetry studies demonstrate that at least some juveniles may disperse up to 7-km after the nesting season; movements appear to halt when individuals meet a habitat barrier such as

a hammock (Dean and Morrison 1998). The researchers also found a male that nested in one area, and then moved during the same breeding season to establish a new territory about 3 km away.

The Seaside Sparrow is believed to have evolved in estuarine areas (Beecher 1955, Werner and Woolfenden 1983). Individuals that occupy tidal areas respond to seasonal changes in water levels by moving relatively long distances. It seems reasonable to assume that Cape Sable Seaside Sparrows have retained sufficient behavioral flexibility to respond appropriately to short-term habitat changes, whether predictable ones such as water level changes, or unpredictable ones, such as those caused by hurricanes and fires. Based on their failure to find marked individuals farther than 1 km from their summer territories, Balent et al. (1998) concluded that the Cape Sable Seaside Sparrow was sedentary throughout the year. Their sampling methods were flawed, however, as they did not correct for the attenuation of bird numbers as distance from the capture point increased (Ostrand et al. 1998).

Sharp (*in* Kushlan et al. 1982) pointed out the importance of post-breeding emigration of juvenile Seaside Sparrows as a means of population maintenance in habitats that undergo periodic perturbations. The limited amount of data indicate that Seaside Sparrows nesting in non-tidal areas disperse relatively long distances. Six of 13 Dusky Seaside Sparrows nesting in brackish impoundments on Merritt Island, Florida, moved 1.2 km between years; one moved about 1.6 km within the same nesting season (Sykes 1980). In the non-breeding season, Sykes also found Dusky Seaside Sparrows 8 to 32 km outside their known breeding range; Sharp (*in* Kushlan et al. 1982) felt that such movements were in response to habitat degradation occurring in dried-out prairie. Similarly, Dusky Seaside Sparrows nesting on *Spartina* prairie were reported to move up to 1.6 km from their original banding site (Baker 1978).

Werner (1975) documented movements by juvenile Cape Sable Seaside Sparrows. In 1974, a male established a territory 400 m from the site where he was banded as a fledgling; a female was caught 940 m from its original banding point. Werner stated that post-breeding emigration of fledglings probably provided the principal mechanism of dispersal. Kushlan et al. (1982) cited instances of population densities increasing in unburned areas after a fire, suggesting that the sparrows reoccupied suitable habitat soon after being displaced.

WILL THE CAPE SABLE SEASIDE SPARROW BE EXTINCT IN 20 YEARS?

As recently as 1991, the surveyors reported that as many as 6,000 Cape Sable Seaside Sparrows remained. A population of this size is

large for this species in any part of its range. Other races of the Seaside Sparrow are found in small, widely-separated groups that are distributed along a narrow coastal fringe. It is possible that several subspecies found along the Gulf of Mexico (*A. m. sennetti*, *A. m. fisheri*, and *A. m. juncicola*), which are not listed as endangered, have less than 6,000 individuals (Kale 1983, McDonald 1988).

Conservation agencies and their consultants have stated that the Cape Sable subspecies will become extinct within 20 years if present trends continue (Anonymous 1997). This claim is based on a population viability analysis model developed by Pimm (1997). Population viability analysis models predict population changes, and estimate the probability of extinction based on projected environmental changes (Shaffer 1990). Accurate demographic data are still lacking for this subspecies, and predictions of population viability based on "estimates" of demographic features must be viewed with considerable skepticism (Caughley 1994). It is misleading to base population viability analysis models on abundance estimates with high confidence intervals (Ludwig 1999), which are the kinds of estimates that are provided by the extensive surveys.

If we accept the hypothesis that the Cape Sable Seaside sparrow will become extinct within 20 years if present trends continue, emergency management procedures should be implemented immediately. The only recent recovery strategy pursued by Everglades National Park has been to request other government agencies to manipulate water levels west of Shark Slough. The requests are based on the assumption that the subspecies will become extinct if the western population is extirpated (Anonymous 1997). Data have not been provided to support this assumption. Theoretical models should not be used as the basis for decisions that will have unknown effects on large areas of the Everglades, including habitats occupied or potentially occupied by other populations of the Cape Sable Seaside Sparrow.

LOCAL INTERVENTION IS NECESSARY

As was the case with the Dusky Seaside Sparrow, the bulk of the Cape Sable Seaside population is confined to federally-owned land. Despite this additional level of protection, the Dusky became extinct, and at least some populations of the Cape Sable continue to decrease. The passive management approach pursued by the responsible federal agencies allowed the decline of both subspecies. To protect the Dusky Seaside Sparrow, the U.S. Fish and Wildlife Service purchased 6,200 acres as a reserve for the St. Johns population; however, once they had bought the land, they failed to plug a drainage ditch that ran through the refuge. This ditch caused abnormal drying of the prairie marshes. The re-

maining breeding population was engulfed by wild fires (Walters 1992). Similarly, Everglades National Park has undertaken little habitat management for the Cape Sable Seaside, such as prescribed burning. The park has pursued a passive, wait-and-see approach to the sparrow's conservation.

Kushlan et al. (1982) assessed the status of the subspecies, and concluded that "the sparrow was probably never abundant but was, apparently, and remains, widespread in southern Florida." Unfortunately, although a preliminary survey protocol was established in 1981, for ten years Cape Sable Seaside Sparrow populations were not monitored. It is not known to what extent Everglades National Park has continued prescribed burning for improving nesting habitat, as recommended by Werner (1975), Taylor (1983), and Kushlan et al. (1982). The recovery plan outlined by Kushlan et al. (1982) listed 17 research goals, none of which appear to have been addressed until 1992.

In the first Cape Sable Seaside Sparrow recovery plan, Kushlan et al. (1982) proposed continued vigilance and some habitat management as a means of maintaining the status of the bird. Post (1983) reviewed the management plan, and concurred in this conclusion, but noted that, in light of its relatively high reproductive potential and high survival rate, the subspecies' supposed decline was paradoxical. It also was pointed out that though the management plan was thorough, it was not innovative. For example, it did not consider the potential of translocation or captive-rearing, although these approaches had been successfully developed during recovery efforts for the Dusky Seaside Sparrow (Post and Antonio 1981). The plan also did not mention field intervention techniques, such as use of predator-baffles to protect nests, which also had been developed as a method to improve the reproductive success of Dusky Seaside Sparrows (Post and Greenlaw 1989). Although predation is a main cause of nest mortality of Seaside Sparrows in Florida (Post 1981), no effort has been made to study the predators of the Cape Sable seaside, let alone to control their effects. If flooding is the cause of nest losses in a limited area, it is feasible to construct small dikes to exclude high water (Richard Bonner, U.S. Army Corps of Engineers, pers. comm.). Seaside Sparrows often occupy extremely small activity spaces (Post and Greenlaw 1994). It would be possible to provide flood protection for 16 breeding pairs by diking only 1 ha.

Despite the recommendations of recent researchers (Curnutt et al. 1998), the multi-species recovery plan (Anonymous 1999) continues to advocate the traditional passive management pursued in the last 20 years, the period in which the sparrow appears to have decreased most rapidly. If indeed the survival of the entire subspecies depends on preserving the few birds remaining west of Shark Slough (population "A";

Anonymous 1997), then these birds should become the focus of the recovery effort. Other than crude population estimates, little is known about the status of the "A" birds. In 1999 the surveyors found only 16 males in the "A" population. It should be a simple matter to protect these few birds from the effects of flooding or predation. The management techniques mentioned above would allow immediate intervention on behalf of this, the most threatened, subpopulation of sparrows. Such intervention would identify specific, attainable goals. The government position paper (Anonymous 1997) and recovery plan (Anonymous 1999) view water level as the single most important factor affecting the survival of the western population, and thus the entire subspecies. This view is leading to a simplistic approach to the recovery of the Cape Sable Seaside Sparrow.

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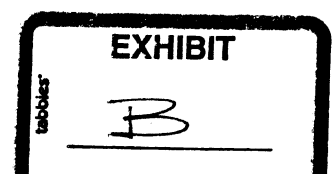
**FINAL SUPPLEMENTAL
ENVIRONMENTAL IMPACT STATEMENT**

**INTERIM OPERATIONAL PLAN (IOP)
FOR PROTECTION OF THE CAPE SABLE
SEASIDE SPARROW**

**EVERGLADES NATIONAL PARK
MIAMI-DADE COUNTY, FLORIDA**



**U.S. Army Corps of Engineers
Jacksonville District**



the area immediately around the nest for foraging and capturing sufficient prey to feed nestlings during the 2 months of the nestling period make them vulnerable to rapidly changing hydrologic conditions.

Monitoring Efforts

Since 1995, the Corps has funded a program with Dr. Wiley Kitchens of USGS and the University of Florida to monitor nesting effort and success of snail kites in the WCAs. The objectives are to track the numbers and success of kite nesting activities in WCA-3A as part of an on-going demographic study of the kite over its range and to try to understand the environmental variables related to successful breeding. The Corps is also providing funding to Dr. Kitchens to monitor vegetation responses to altered hydrologic regimes in WCA-3A in areas of traditional kite nesting and foraging habitat, in accordance with recommendations in the 2002 BO on IOP.

The snail kite population in Florida progressively and dramatically decreased between 1999 and 2002 from approximately 3400 to 1700 birds in response to the moderately severe regional drought of 2000/2001. Survival of both juveniles and adults rebounded shortly after the drought, but the number of young produced has not recovered from a sharp decrease that preceded the drought. Population size estimates of abundance between 2002 and 2003 suggest a possible stabilization at approximately 1500-1600 birds. Although the population size estimates of 1700 for 2004 and 2005 are slightly higher than both 2002 and 2003, this is not thought to be statistically significant. Nesting activity is summarized below for the 3 full years since implementation of IOP.

		Active Nests	Successful Nests	Young Fledged
2003	WCA-3A	82	28	37
	WCA-3B	2	0	0
	ENP			
	Elsewhere*	65	19	29
2004	WCA-3A	48	19	25
	WCA-3B	6	3	4
	ENP			
	Elsewhere*	51	21	36
2005	WCA-3*	12	0	0
	WCA-3B	0		
	ENP	0		
	Elsewhere*	107	23	39
2006**	WCA-3A	62	11	11
	WCA-3B	17	3	3
	ENP	23	14	22
	Elsewhere*	73	15	27

* WPB, Lake Kiss., Lake E Toho., Lake O, St Johns Marsh, Lake Toho., Lake Istokpoga, WCA-2A, WCA-2B, WCA-1, BCNP.

** Preliminary results

In 2005, nesting success was lower than during any other year between 1992 and 2005. Historically, nests in WCA-3A have fledged, proportionally, the large majority of young in the region. No young were fledged out of WCA-3A in 2005. Dr. Kitchens believes that this trend of lowered regional reproduction is a cause of concern regarding the sustainability of the population.

Preliminary results indicate that successful nesting in WCA-3A has occurred in 2006, and nesting is taking place south of the Tamiami Trail in areas where previous nesting has been limited (Figure 23). So far, 2006 has not had the heavy rainfall and hurricanes that characterized the past 2 years.

The persistence of the snail kite in Florida is thought to depend principally on the large wetlands present in the WCAs. Current water regulation schedules shorten the window of time during which kites can breed. To date, most concern and interest regarding potential impacts to kites have focused on the higher water levels and hydroperiods occurring during IOP. Dr. Kitchens and his research team feel that management activities associated with attempting to mitigate potential high water level impacts may well have potentially amplified those detrimental impacts to kite nesting and foraging activities. For example, in addition to the negative effect on reproduction, the rapid water level recession rates from the elevated stage schedule between February and July, intended to mitigate the extended hydroperiods and excessive depths between September and December, present extreme foraging difficulties to both juvenile and adult kites.

To summarize, Dr. Kitchens believes there are four major potentially adverse effects associated with current water regulation schedules:

1. Given the high water levels early in the nesting season, birds are initiating nests in upslope shallower sites. Given the necessity to initiate rapid recession rates to meet the target schedule and avoid the impacts of sustained higher water levels, breeding adults may not be able to raise their young before the water levels reach a critical low below which snail availability to kites is drastically reduced.
2. Under the current regulation schedule, there is a high likelihood that the water levels in WCA-3A will fall below the critical threshold (below which foraging success is severely reduced) for an extended period of time. Concerning this latter point, Dr. Kitchens recommends that the water levels at gauging station 3AS3W1 should not fall below 9 feet for any prolonged period of time (< 3 weeks).
3. In addition, extended flooding resulting either from weather conditions, IOP, or both from September to January appears to be shifting plant communities from wet prairies to sloughs, which is detrimental from the snail kite perspective because snail availability to kites is lower in slough than in wet prairies.
4. Finally, preliminary evidence suggests that apple snail recruitment may be favored when water levels at station 3AS3W1 are maintained at around 9.4 feet from February to April.

There is a delicate trade-off between low and high water, and timing seems to be critical. Drying events following managed recessions (e.g., 2001, 2004, and 2006) have the potential to induce mortality of adults and juveniles, whereas repeated and extended flooding tends to result in long-term degradation of the habitat, which also reduces reproduction and hinders kite recovery.

WCA-3A is the largest and most consistently utilized (as measured by numbers of birds observed during annual surveys from 1970 to 1994) of the designated Critical Habitat for the kites. Snail kites have increasingly moved their nesting activity to areas of higher elevations in WCA-3A over the past two decades, presumably as the traditional nesting vegetation has been degraded by sustained high water levels due to water management practices. Higher water levels have resulted in the conversion of wet prairies (preferred foraging habitat for kites) to aquatic sloughs in selected sites in that area, along with losses of interspersed herbaceous and woody species essential for nesting habitat. Hydrological modeling of Alternative 7R in 2002 indicated that implementing the project could result in excessive ponding and extended hydroperiods that could further degrade nesting and foraging habitat. While the impacts of IOP Alternative 7R might adversely affect a significant portion of the Critical Habitat, FWS determined in 2002 that it is not likely to result in jeopardy to the snail kite and recommended a number of reasonable and prudent measures to minimize impacts of incidental take of snail kites. Among the terms of this document are requirements for: (1) tracking the yearly status of the snail kite and any vegetative shifts that may occur within snail kite habitats, and (2) determining the number of snail kites initiating nesting in the action area and the success rate of those nesting efforts each year. The Florida Cooperative Fish and Wildlife Research Unit is currently under contract by the Corps to satisfy the monitoring requirements. The vegetative monitoring part of this work expires in 2006, but is expected to be extended. Specifically, it addresses the concern that Alternative 7R could adversely affect the structure and function of vegetation communities in WCA-3A, portions of which are designated Critical Habitat of the snail kite. The principal concern is that the habitat quality, and thus the carrying capacity, of WCA-3A is already seriously degraded. Although still preliminary, the studies tend to confirm these concerns. Since 2002, kite production in WCA-3A has dramatically dropped, having produced no kites in 2005. This coincides with successive annual shifts (2002, 2003, 2004, and 2005) in community types within the slough/prairies at sites reported in 2002 to be prime areas of snail abundance, and thus kite foraging, in WCA-3A. The conversion trend from emergent prairies/sloughs to deep water sloughs is certainly degradation in habitat quality for the kites. Habitat quality in WCA-3A is changing progressively and dramatically to less desirable habitat in this critical area, and this conversion is rapid, with changes evident in just 1 year. Continuation of the monitoring protocol would allow these changes to be tracked for indications of rebound or continued degradation, as well as to help sort out the effects of hurricanes from those that might be due to IOP.

FWS Conclusion

In the 2006 BO, the FWS concludes:

From: Moulding, Jon SAJ [Jon.Moulding@saj02.usace.army.mil]
Sent: Friday, April 07, 2006 1:58 PM
To: KITCHENS, WILEY M
Cc: tylan_dean@fws.gov
Subject: Snail Kite: Habitat Monitoring Study Extended Wiley,

Please submit a SOW and budget for the number of years you propose (5 max).

Jon

From: KITCHENS, WILEY M [mailto:wiley01@ufl.edu]
Sent: Thursday, April 06, 2006 3:38 PM
To: Moulding, Jon SAJ
Subject:

Jon, I want to share this graphic with you. As mentioned in our annual report we will be requesting an extension of the vegetation monitoring project. This is essentially a "heads-up" on what we are seeing.

The data represent the vegetative changes that are occurring in the prime kite foraging habitats in WCA3A. The plots are NMS ordinations of the slough/wet prairie communities in Study Units 7, 8, and 9. The plots follow the centroids of the community space thru successive years (2002, 2003, 2004, and 2005) and indicate the conversion of community types for the transects thru time. We chose these sites in this area for its use by kites for nesting in the past and the potential for being impacted by the IOP. Bottom line, the habitat is in a tremendous dynamic, and the trend in this critical area is absolutely alarming. The graphic depicts the successive annual shifts (2002, 2003, 2004, and 2005) in community types within the slough/prairies at sites comparable to those reported by Darby et. al. to be prime areas of snail abundance and kite foraging in WCA3A in 2001. The conversion trend from emergent prairies/sloughs to deep water sloughs is definitely a degradation in habitat quality for the kites. Recall also that we found that no kites were produced from WCA3A in 2005. I share this with you for several reasons, not the least of which is the habitat quality in WCA3A is changing progressively and dramatically to less desirable habitat in this critical area, this conversion is rapid (changes are evident even after a year), and, we will be using this information to support the need to maintain our monitoring protocol to track these changes for indications of rebound or continued degradation as well as to be able to sort out the effects of hurricanes from the IOP. I look forward to suggestions regarding our continuing the study at a reduced scope.

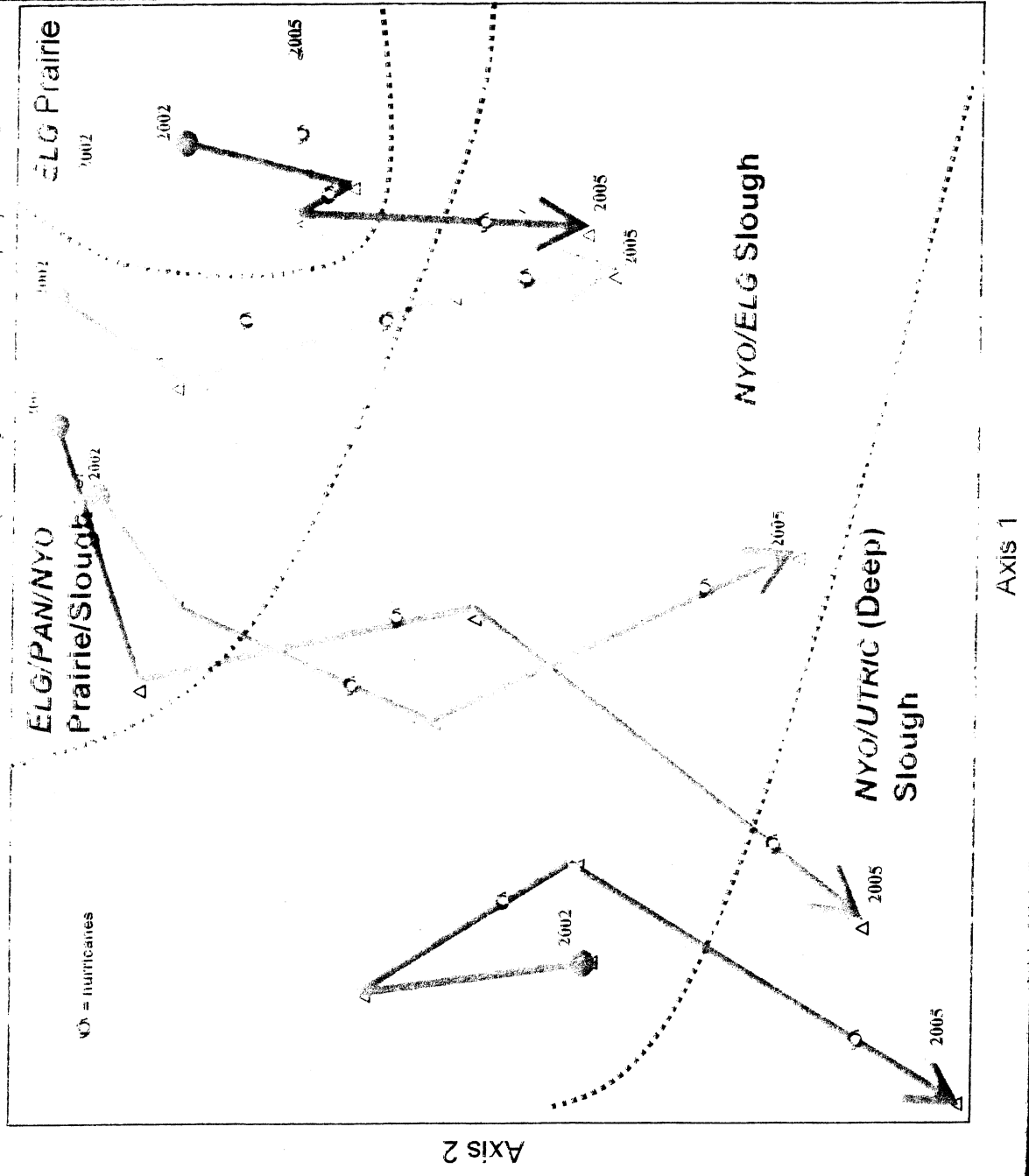
Thanks,

Wiley M. Kitchens
 USGS FL Cooperative Fish and Wildlife Research Unit
 Bldg. 810, University of Florida
 Gainesville, FL 32611-0485
 352-846-0536
 kitchensw@wec.ufl.edu

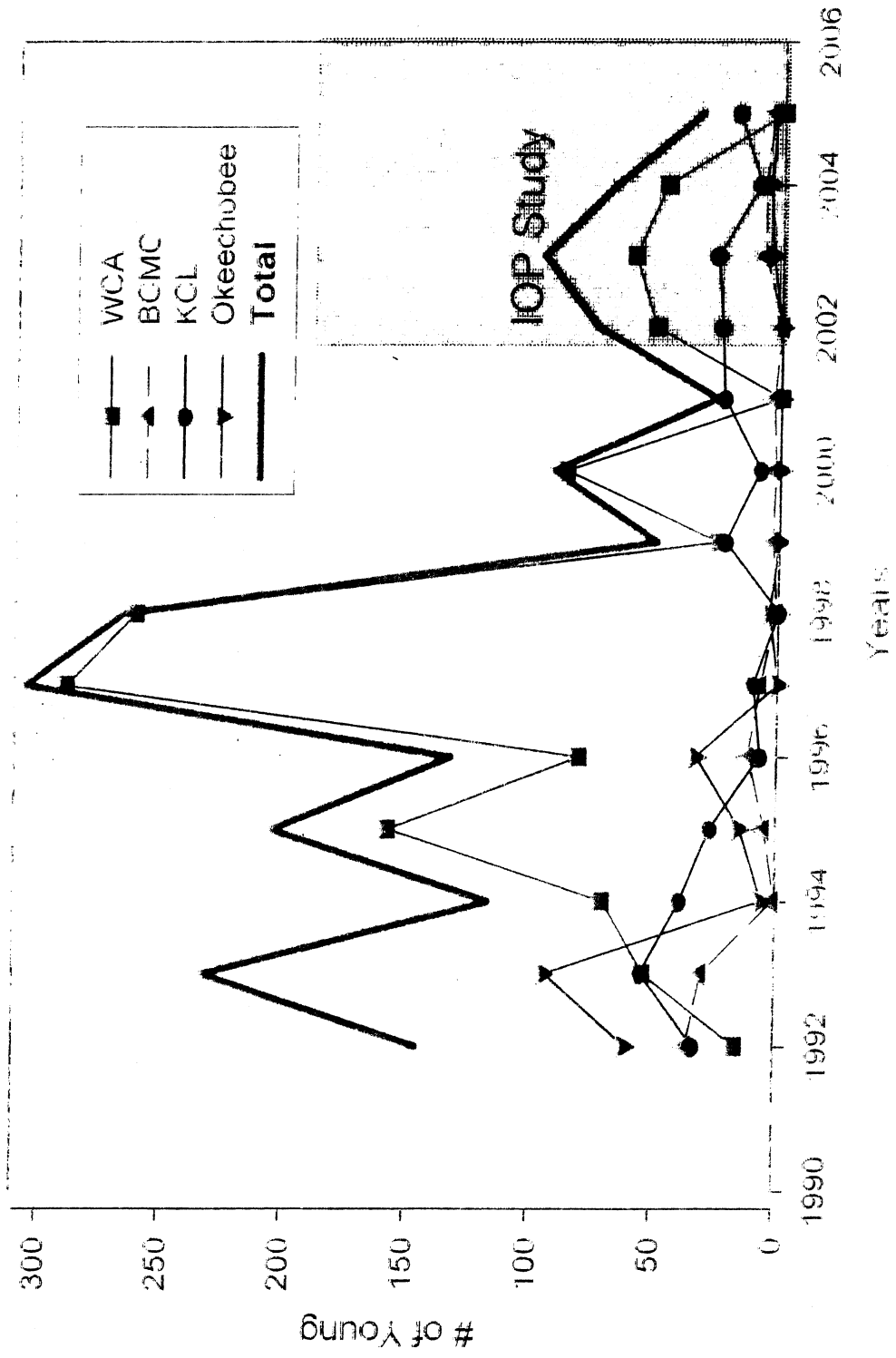
EXHIBIT

tabbles

Wet season NMS with frequency on Plots 7, 8, and 9



Number of young produced



Dade-Collier Training and Transition

Canal

Big Cypress National Preserve

Jack Clay Hammock

Jessie Willies Camp

Small

Big Hammock

Paolita Station

Trail Center

Pete Osceolas

Micc

Small

Stanley Frank

Loop Rd

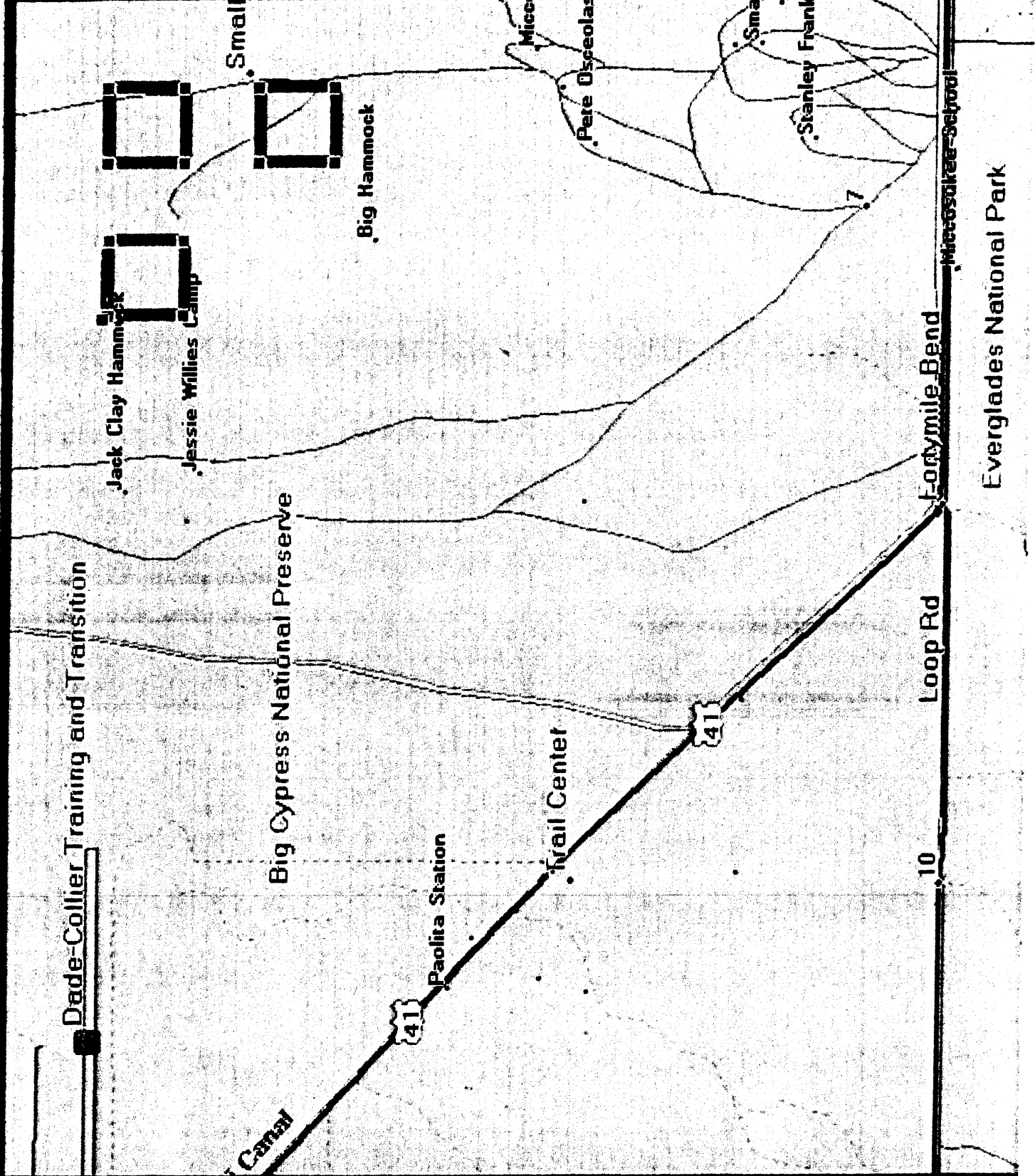
Fortymile Bend

10

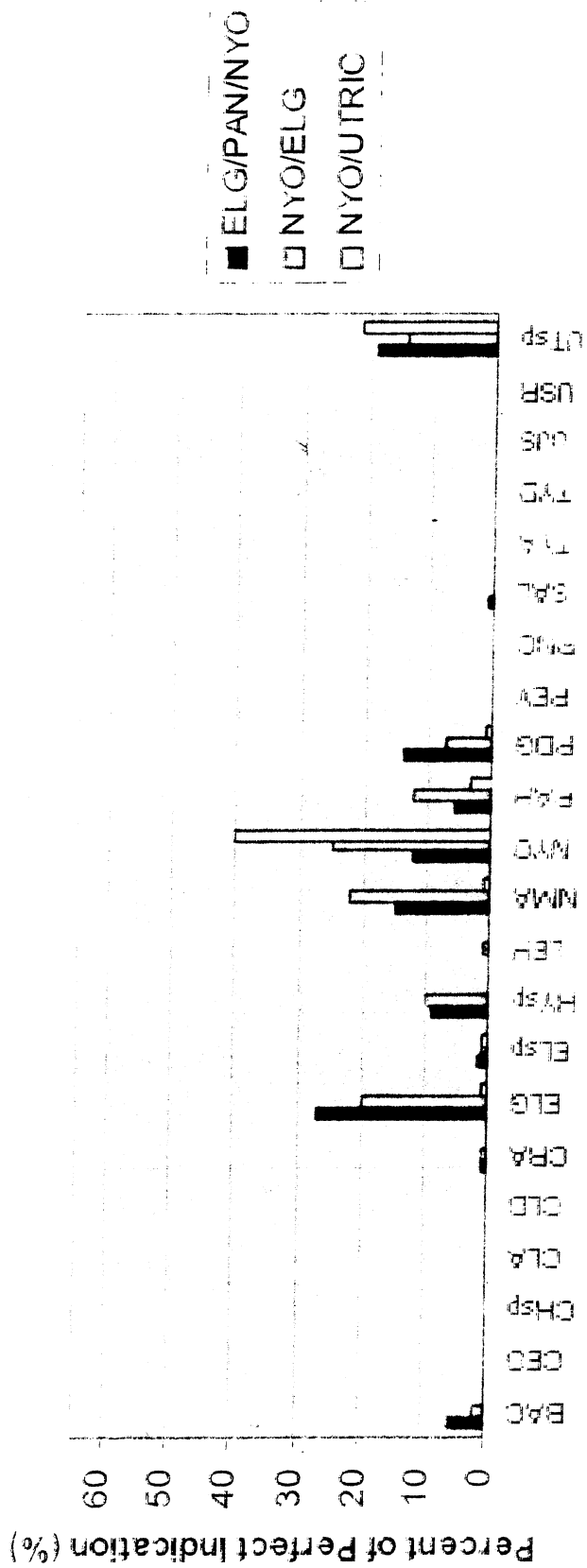
Miccosukee School

Everglades National Park

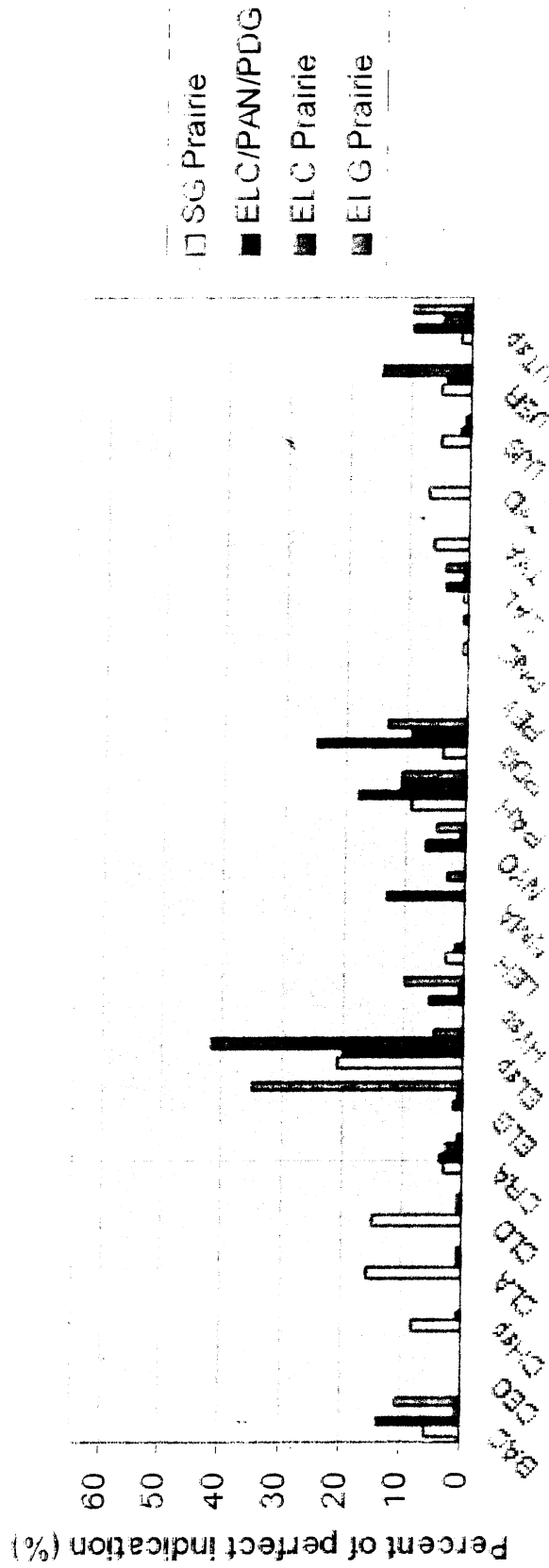
7



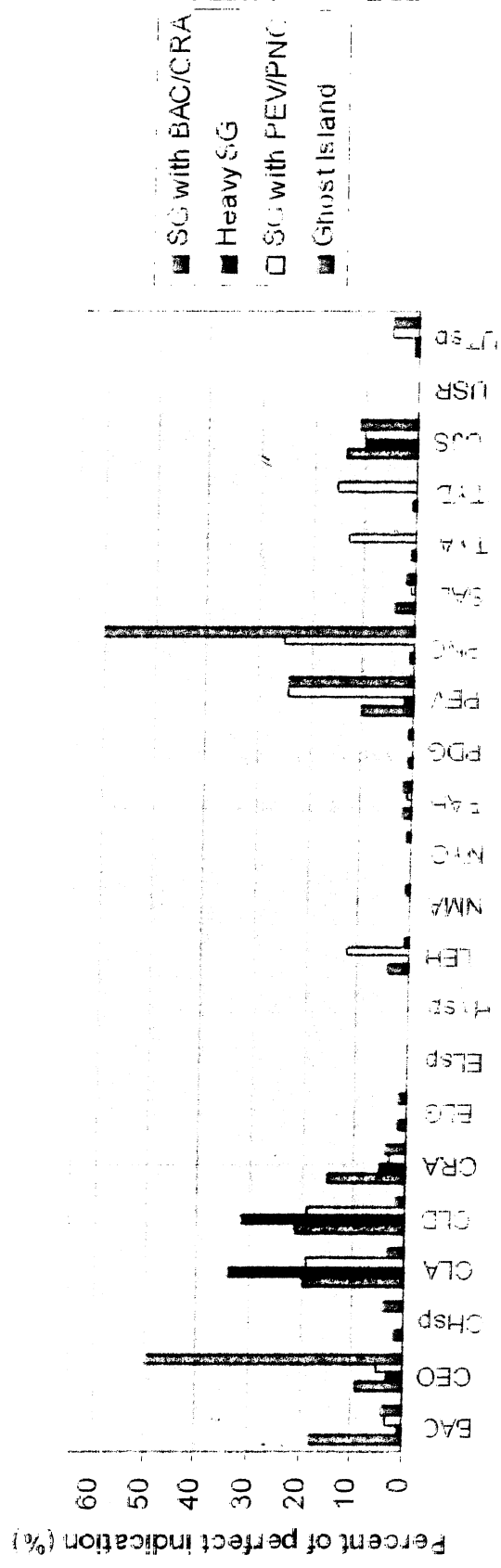
Slough Communities



Prairie Communities



Sawgrass Communities



STATE



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

August 20, 2007

Ms. Yvonne L. Haberer
Environmental Branch, Jacksonville District
U. S. Army Corps of Engineers
P. O. Box 4970
Jacksonville, FL 32232-0019

RE: Department of the Army, Jacksonville District Corps of Engineers (USACE) -
Revised Draft Supplemental Environmental Impact Statement for the Lake
Okeechobee Regulation Schedule (LORS) - Central and Southern Florida Flood
Control Project Area, Florida.
SAI # FL200707033595C (Reference SAI # FL200608112709C)

Dear Ms. Haberer:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16, U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4231, 4331-4335, 4341-4347, as amended, has coordinated a review of the revised draft Supplemental Environmental Impact Statement (SEIS).

The Florida Department of Environmental Protection (DEP) recommends that lake regulation schedules be coupled with day to day operational guidance guided by weather forecasts to reduce the conditions that result in tradeoffs between the ecological health of the lake, estuaries and the water conservation areas (WCAs). A managed recession protocol should also be included with the revised LORS at this time - this would provide an opportunity to make managed releases without further delays to prepare additional reports. Making low flow, pulse releases to the overall system that simulate rainfall events over the water year should help to optimize lake stage levels, reduce high flows to the estuaries and meet the environmental needs of the WCAs without impacting water supply flows. Staff encourages the USACE to consider all operational alternatives including the temporary storage of water on South Florida Water Management District (SFWMD) held lands or private lands to meet the natural system targets for the lake, estuaries and WCAs. Please see the enclosed DEP memorandum for additional comments and recommendations.

The Florida Department of Agriculture and Consumer Services (FDACS) continues to express strong concerns about the impact of the proposed regulation schedule on water supply availability. Uncertainties regarding the SFWMD's ability to implement offsets for agricultural water supply shortages related to low lake levels, inconsistencies with the

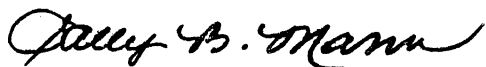
Ms. Yvonne L. Haberer
August 20, 2007
Page 2 of 2

SFWMD's Minimum Flow and Level rules, extended operation of the "temporary" forward pumps, potential endangered species issues, etc. remain. It appears more certain that the Lake Okeechobee Service Area will experience situations similar to the current water shortage condition more frequently and for longer periods of time. The FDACS' projections of the economic consequences to irrigated agriculture in the Lake Okeechobee Service Area from the current water shortage indicate damages could range from \$688 million to over \$1 billion by June 2008. Staff states that impacts of this magnitude are not acceptable. Given the severity of the projected impacts to agricultural water supply with the proposed lake regulation schedule, the FDACS strongly recommends that the USACE not implement the recommended schedule but instead use deviations to the current one (WSE) until the repairs to reaches 1, 2 and 3 of the dike are completed. Finally, repair of the Herbert Hoover Dike is absolutely critical, and staff encourages the USACE to move as quickly as possible to complete that task. Please refer to the enclosed FDACS letter for further information.

Based on the information contained in the revised draft SEIS and the enclosed state agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP). The concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final review of the project's consistency with the FCMP will be conducted during the environmental permitting stage.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Mr. Chris J. Stahl at (850) 245-2169.

Yours sincerely,



Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/cjs
Enclosures

cc: John Outland, DEP, MS 45
Shelley Yaun, DEP, MS 3560
Tim Gray, DEP, Southeast District
Forrest Watson, FDACS
W. Ray Scott, FDACS



Florida

Department of Environmental Protection

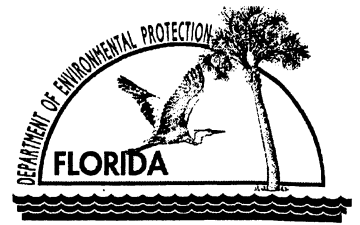
"More Protection. Less Process"



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Project Information	
Project:	FL200707033595C
Comments Due:	08/07/2007
Letter Due:	08/17/2007
Description:	DEPARTMENT OF THE ARMY, JACKSONVILLE DISTRICT CORPS OF ENGINEERS - REVISED DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE LAKE OKEECHOBEE REGULATION SCHEDULE STUDY - CENTRAL AND SOUTHERN FLORIDA FLOOD CONTROL PROJECT AREA, FLORIDA.
Keywords:	ACOE - REVISED DSEIS, LAKE OKEECHOBEE REGULATION SCHEDULE STUDY
CFDA #:	12.106
Agency Comments:	
AGRICULTURE - FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES	
<p>The FDACS continues to have strong concerns about the impact of the proposed regulation schedule on water supply availability. Uncertainties regarding the SFWMD's ability to implement offsets for agricultural water supply shortages related to low lake levels, inconsistencies with the SFWMD's Minimum Flow and Level rules, extended operation of the "temporary" forward pumps, potential endangered species issues, etc. remain. It appears more certain that the Lake Okeechobee Service Area will experience situations similar to the current water shortage condition more frequently and for longer periods of time. Projections by the FDACS of the economic consequences to irrigated agriculture in the Lake Okeechobee Service Area from the current water shortage indicate damages could range from \$688 million to over \$1 billion by June 2008. Impacts of this magnitude are unacceptable. Given the severity of the projected impacts to agricultural water supply with the proposed lake regulation schedule, the FDACS strongly recommends that the USACE not implement the recommended schedule but instead use deviations to the current one (WSE) until the repairs to reaches 1, 2 and 3 of the dike are completed. Finally, repair of the Herbert Hoover Dike is absolutely critical, and staff encourages the USACE to move as quickly as possible in completing that task.</p>	
COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS	
DCA has no comments.	
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	
<p>The DEP recommends that lake regulation schedules be coupled with day to day operational guidance guided by weather forecasts to reduce the conditions that result in tradeoffs between the ecological health of the lake, estuaries and the water conservation areas (WCAs). A managed recession protocol should also be included with the revised LORS at this time - this would provide an opportunity to make managed releases without further delays to prepare additional reports. Making low flow, pulse releases to the overall system that simulate rainfall events over the water year should help to optimize lake stage levels, reduce high flows to the estuaries and meet the environmental needs of the WCAs without impacting water supply flows. Staff encourages the USACE to consider all operational alternatives including the temporary storage of water on SFWMD-held lands or private lands to meet the natural system targets for the lake, estuaries and WCAs. Please see the enclosed DEP memorandum for additional comments and recommendations.</p>	
FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION	
NO COMMENT BY LAWSON SNYDER 8/8/07.	
STATE - FLORIDA DEPARTMENT OF STATE	
No Comments Received	
TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION	
<p>The Florida Department of Transportation's District One Environmental Management Office (DEMO) offers the following comments for your consideration. Should the project impact any FDOT facilities/roadways the agency will need to obtain all necessary permits from our Fort Myers Operations Center prior to construction activities occurring within FDOT's state road right-of-way. Any asbestos-containing material (ACM) which is encountered must be properly handled in accordance with all local, state and federal regulations. In no case shall ACM be crushed and buried within FDOT right-of-way.</p>	
SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT	
The District is the local sponsor for this project. Therefore, a consistency determination will not be necessary.	

Memorandum



TO: Florida State Clearinghouse

THROUGH: Shelley Yaun, Administrator
Water Quality Standards & Special Project Program

FROM: John Outland, Tim Gray and LaDawna McDonald

DATE: August 6, 2007

SUBJECT: Department of the Army, Jacksonville District Corps of Engineers –
Revised Draft Supplemental Environmental Impact Statement for the Lake
Okeechobee Regulation Schedule Study – Central and Southern Florida
Flood Control Project Area, Florida.

SAI #: FL07-3595C

Background:

The U.S. Army Corps of Engineers (Corps) prepared a Supplemental Environmental Impact Statement (EIS) in 2005 to revise the regulation schedule to address the need to lower the normal operating limits of Lake Okeechobee. Alternative 1bS2-m was selected as the Preferred Alternative. However, concerns were expressed by reviewers and the public that the selected alternative did not adequately reduce the large freshwater releases to the Caloosahatchee Estuary. Based on these comments the Corps decided to complete additional plan formulation and hydrological modeling to improve the Caloosahatchee Estuary performance. This was primarily accomplished by removing the high lake level constraint of 17.25 feet used in the previous model runs and using the level as a performance measure. By allowing the lake to rise to 17.25 feet several alternatives were developed that would reduce the frequency of damaging freshwater discharges to tide in favor of more frequent low level discharges. The additional formulation and modeling resulted in three new alternatives, referred to in the EIS as Alternatives C, D, and E. The Lake Okeechobee Regulation Schedule (LORS) has been and will continue to be designed to balance the multiple and other competing project purposes and objectives including navigation, water supply, flood management and enhancement of fish and wildlife resources.

The report recognizes that the new regulation schedule can only achieve minor improvements, given the competing objectives, in the timing of water releases and cannot result in significant improvement until more storage is available within the system. The selected plan (Alternative E) is considered an interim plan waiting for additional storage areas to be constructed under the Comprehensive Everglades Restoration Plan (CERP)

and the *Acceler8* projects, or until the Herbert Hoover Dike repairs are completed for reaches 1, 2, and 3.

The preferred alternative (Alternative E) is considered the best operational compromise for a new LORS as the alternative: produces the best balance of all objectives, allows for quicker response to lake inflows, reduces the frequency of high lake stages, improves optimum flow release to the estuaries, and limits impacts to water supply, including the greater Everglades.

Comments:

1. The Interim Goals Agreement for CERP implementation recommends that to protect the resources of Lake Okeechobee that the frequency of harmful stages above 15 feet for more than 12 months and the frequency of harmful low stages below 11 feet should be reduced. Seasonally variable water levels within the range of 12.5 feet (June-July low) and 15.5 feet (November-January) are preferred to protect the lake's plant and animal resources and are the target range for the preferred alternative. The alternatives, including the no action alternative, performed essentially the same in the percent (NA 27.5 – PA 25.3) of time that Lake Okeechobee was within the preferred stage envelope (seasonally variable 12.5 to 15.5 feet) over the period of record (POR).

We believe that lake regulation schedules should be coupled with day to day operational guidance guided by weather forecasts to reduce the conditions that result in tradeoffs between the ecological health of the lake, estuaries and the water conservation areas (WCA). The preferred alternative provides for additional operational flexibility giving the Corps the ability to make long-term, low volume releases to the Caloosahatchee and St. Lucie Estuaries and the WCAs that will allow Lake Okeechobee to be maintained closer to the optimum stage levels between ranges of 12.5 to 15.5 feet.

We also believe that inclusion of a managed recession protocol as mentioned in Section 4, page 99 to offset the prolonged high water levels which occurred for 13 months in 2004-2005 should be included with the revised LORS. In 2000-2001 for the first time the lake level was intentionally lowered to benefit fish and wildlife habitat. The lake's ecology benefited from the lowering by an increase in transparency in the water column, a decline in phosphorus concentrations in areas where submerged aquatic vegetation recovered and the recovery of approximately 17,000 acres hectares of submerged aquatic vegetation. Lake Okeechobee is primarily regulated for flood control, navigation and water supply and secondarily for environmental needs. Unfortunately, there were some relatively short term adverse impacts to the estuaries from the lake releases and water shortage restrictions were necessary as normal rainfall did not return until the fall of 2001. Including the documentation for a managed recession now, even with the on-going natural recession and interim nature of the LORS, provides the Corps with the

opportunity to make managed releases without having to delay to prepare additional reports.

2. For the northern estuaries, the preferred alternative reduces the total number of high flow events ($> 2,800$ cfs) from 74 to 64 events of the POR, a 14 percent decrease from the base run to the Caloosahatchee estuary.

However, the number of extreme high flow events ($>4,500$ cfs) remains the same at 29, but the duration of these events increases, with average flows exceeding 4,500 cfs for longer than 5 weeks increases from 28 to 65 over the POR.

3. Making low flow, pulse releases to the overall system that simulate rainfall events over the water year should help to optimize lake stage levels, reduce high flows to the estuaries and meet the environmental needs of the WCAs without impacting water supply flows. To further reduce the frequency of high volume release, other opportunities to store more water in the Kissimmee River Basin over the next three years should be evaluated including the water storage benefits of the Kissimmee River Restoration Project and the development of a new regulation schedule for the Kissimmee Chain of Lakes. We also encourage the Corps to consider all operational alternatives including the temporary storage of water on District held lands or private lands to meet the natural system targets for the lake, estuaries and WCAs.

If you have any questions regarding these comments, please contact LaDawna McDonald at (850) 245-7534.

cc: John Outland (e-mail)
Shelley Yaun (e-mail)
Frank Nearhoof (e-mail)
Ernie Marks (e-mail)
Tim Gray (e-mail)
LaDawna McDonald (e-mail)



Florida Department of Agriculture and Consumer Services
CHARLES H. BRONSON, Commissioner
The Capitol • Tallahassee, FL 32399-0800
www.doacs.state.fl.us

TO: Lauren Milligan, Environmental Manager
Florida State Clearinghouse
Department of Environmental Protection

FROM: Department of Agriculture and Consumer Services

DATE: August 14, 2007

SUBJECT: Clearinghouse Item FL200707033595C, Review of the Revised Draft
Supplemental EIS for the Lake Okeechobee Regulation Schedule (LORS)

The Florida Department of Agriculture and Consumer Services (Department) appreciates the opportunity to comment and requests the following concerns be considered in the state clearinghouse review of the Corps' June 2007 Revised Draft Supplemental EIS for the Lake Okeechobee Regulation Schedule.

As we stated in our previous comments in 2006, the Department fully appreciates the USACE concerns regarding the integrity of the Herbert Hoover Dike and that protection of public health and safety was an overriding factor in selecting the preferred alternative for regulating lake levels. However, to the extent feasible, the selected alternative should accomplish these objectives while minimizing other potential impacts that may be less desirable.

In June, 2007, the USACE presented a "compromise" to attempt to avoid the reformulation requested by the SFWMD Governing Board. The compromise was that (1) the new schedule would include a sunset clause that re-instates the WSE schedule (or one with equivalent storage if it had been officially adopted by that time) once the Corps has finished the Phase one improvements for reaches 1, 2 and 3 of the Herbert Hoover Dike (HHD); (2) South Florida Water Management District (SFWMD) will amend their written Water Shortage Plan (WSP) to lower the trigger line and formalize the methodology used this year in the Lake Okeechobee Service Area; and (3) SFWMD would address the Lake Okeechobee minimum flow and level (MFL) issues in some manner in recognition that they may experience very low lake levels during this interim period.

FDACS continues to have strong concerns about the impact of the proposed schedule on water supply availability. SFWMD will not be lowering the water shortage trigger line and has not



Florida Agriculture and Forest Products

\$87 Billion for Florida's Economy

amended their WSP so it remains unlikely the offsets to agricultural water supply shortages related to low lake levels can be implemented as expected. Issues with the proposed amended WSP being inconsistent with SFWMD's Minimum Flow and Level rules were raised by environmental interests at the public workshops. SFWMD has not initiated any activities to address the MFL issues. We have questions about the District's ability to continue to operate the "temporary" forward pumps for an undefined period of time. An additional concern is the upcoming Biological Opinion from the U. S. Fish and Wildlife Service and potential endangered species issues that could also affect the implementation of the proposed water shortage offsets.

Agricultural operations need some certainty in order to remain in business. The certainty provided by the proposed lake regulation schedule is that the Lake Okeechobee Service Area has a much greater chance of being in situations similar to the current water shortage condition more frequently and for longer periods of time. Section 6.12.1 of the document discusses potential impacts to agriculture as projected by the modeling. The frequency of water shortages is projected to double from 7 years with water supply cutbacks to 14 years; duration of cutbacks will more than double from 17 to 37 months, as will the severity of the "droughts". For example, projections by the Department of the economic consequences to irrigated agriculture in the Lake Okeechobee Service Area from the current water shortage indicate damages could range from \$688 million to over \$1 billion by June 2008. Impacts of this magnitude are unacceptable.

Given the severity of the projected impacts to agricultural water supply with the proposed lake regulation schedule, the Department strongly recommends that the USACE not implement the recommended schedule but instead use deviations to the current one (WSE) until the repairs to reaches 1, 2 and 3 of the dike are completed. Finally, repair of the Herbert Hoover Dike is absolutely critical, and we encourage the Corps to move as quickly as possible in completing that task.

We appreciate the opportunity to comment and hope that the comments will be considered in finalizing the regulation schedule for Lake Okeechobee. If there are specific questions about these comments staff should feel free to contact Mr. Ray Scott at (850) 410-6714 or Ms. Linda McCarthy at (561) 682-2845.



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

August 20, 2007

Colonel Paul L. Grosskruger
Commander and District Engineer
United States Army Corps of Engineers
Jacksonville District Post Office Box 4970
Jacksonville, FL 32232-0019

Dear Colonel Grosskruger:

Thank you for the opportunity to comment on the June 2007 draft Supplemental Environmental Impact Statement (SEIS), including the "Preferred Alternative" for the Lake Okeechobee Regulation Schedule Study (LORSS). It is our intent to provide comments to identify issues of concern to the South Florida Water Management District (District), and provide technical information for incorporation into the United States Army Corps of Engineers (USACE) Final Supplemental Environmental Impact Statement (SEIS) document. We are pleased the USACE incorporated the majority of the District's comments during the previous formal Draft SEIS review in October 2006.

For ease of incorporating the review comments into the USACE's Final SEIS, and as agreed upon by the USACE's project team, the District's collective comments have been collated with the track changes option in the electronic version which was provided to the District's Project Manager. The District has retained a hard copy of the changes as a backup.

The following is a summary of the District's most significant comments and/or concerns:

- ***Projected MFL Violations:***
 - The USACE's proposed, temporary Lake Okeechobee Regulation Schedule (LORS) is projected to result in Lake levels that may potentially result in an exceedance and / or violation of the District's Lake Okeechobee Minimum Flows and Level (MFL), depending upon actual rainfall received during the implementation timeframe of this regulation schedule (See Enclosure A - Chapter 40E-8, Florida Administrative Code). District staff conducted several simulations to comprehensively evaluate the performance of low stages in the Lake. These simulations demonstrate that regardless of which Lake Okeechobee water shortage management scheme is used, no major improvements in the Lake Okeechobee MFL performance was achieved. The low Lake stage and the subsequent harmful impact on the Lake's ecology is caused by the highly aggressive flood control management proposed by the Preferred Alternative.
 - In response to the anticipated low Lake levels the District, as a part of the 2007 Lower East Coast Regional Water Supply Plan (LECRWSP), prepared various Lake management options that can be implemented to improve the Lake's ecology in the event of extreme low events. Lower Lake levels can provide opportunities to conduct restoration efforts during low water periods that otherwise would not be possible. These periods will allow the District to conduct native aquatic and tree planting, sediment scraping, dredging, and other habitat enhancements, which may include the possible supplementation of apple snail populations.

- ***Water Availability Impacts:***

- The current DRAFT SEIS must explicitly state the Preferred Alternative lowers the working water supply storage capability of the Lake and less water will be available to meet demands during the dry season. It is important to note that the amount of water discharged by the regulation schedule to reduce the high stages is proportionately much greater when compared to the dry season water supply releases. Even if severe water supply cutbacks to the Lake Okeechobee Service Area users were implemented using extreme restrictions on water supply deliveries, those reduced water deliveries will not compensate for the low Lake elevations that are caused by the proposed Lake Regulation Schedule. Therefore, the Preferred Alternative under the federal project authority alone increases the severity and frequency of lower Lake stages regardless of the District's selected Water Shortage Management Plan selected.
- Water supply for municipal, industrial, agricultural and urban use is an objective of the C&SF project, including the Lake Okeechobee Regulation Schedule. We recognize that due to the significant concerns regarding the HHD integrity these water supply objectives and potential Lake ecology issues have been temporarily reweighed in developing the proposed Preferred Alternative. The operation of temporary forward pumps to help mitigate the potential for severe economic impacts on existing legal uses of water at low Lake levels is a crucial and integral component of the Preferred Alternative's balancing of federal project objectives. Without the ability to operate the temporary forward pumps, consistent with the District's proposed water shortage management plan, as discussed below, economic impacts on existing legal users of water under the Preferred Alternative would be severe. As such, the USACE must recognize in the DRAFT SEIS that the District's role in installing and operating these temporary forward pumps is, in part, carried out under the authority granted it, as the local sponsor of the C&SF project pursuant to the Preferred Alternative.

- ***Lake Okeechobee Water Shortage Management Plan:***

- The District is pleased to attach a revised Draft Appendix G - Lake Okeechobee Water Shortage Management Plan (Enclosure A, with an electronic version forwarded to Yvonne Haberer and Pete Milam via email). This revised draft should replace the August Draft 2006 Water Shortage Management Plan (LOWSM) contained in the DRAFT SEIS. The combination of the Preferred Alternative and the 2006 LOWSM Plan has been found to be incompatible with the Lake Okeechobee MFL rule, and therefore the August 2006 LOWSM plan will not be the plan implemented by the District. The revised LOWSM Plan has been discussed extensively with various stakeholders and generally describes the water shortage operations conducted during the current drought situation (2006-2007).
- Again, District staff intends to present changes to the Water Shortage Plan (Chapter 40E-21, F.A.C.) to the District Governing Board at its September Board meeting. These rule changes address the allocation methodology for users within the Lake Okeechobee Service Area and are commensurate with the District's operations during the on-going water shortage. Although previously considered, District staff will not recommend any changes to the existing Lake Okeechobee water shortage trigger line established in Chapter 40E-22, F.A.C. Staff anticipates the Governing Board will act to authorize publication of these limited rule amendments and adoption of these changes will occur without further Board action, unless a request for public hearing is made. The District

acknowledges the USACE's strategy of bracketing water supply performance in the DRAFT SEIS in an effort to meet National Environmental Policy Act (NEPA) requirements; however, the combination of the Preferred Alternative and the former draft August 2006 LOWSM Plan is not acceptable, nor consistent with State law, since water supply cutbacks would not be triggered until the Lake levels fall below the 11 ft NGVD Minimum Flows and Levels (MFL) criteria. The Preferred Alternative with Water Shortage Triggers (WST) alternative analyzed in the DRAFT SEIS more closely reflects the current rule structure.

- ***Emphasis on Interim Nature of LORS:***

- It is the District's understanding that the proposed Lake Okeechobee Regulation Schedule is an interim or temporary schedule which focuses on public health, the safety, and general welfare considerations associated with safety of the Herbert Hoover Dike (HHD). Given this underlying premise, the LORS is destined for implementation over a short-term period currently estimated to be three years. The DRAFT SEIS states, in summary, that following rehabilitation of the HHD in Reaches 1, 2, and 3, the Corps will operate under a new CERP Band 1 regulation schedule (System-wide Schedule) or a new schedule providing storage equivalent to the existing WSE regulation schedule. The DRAFT SEIS must emphasize the temporary nature of this LORS and also provide an expedited avenue to achieve increased storage through either: (1) provisions for increased Lake stages within this schedule after HHD rehabilitation, (2) a new schedule which will be effective immediately upon rehabilitation of HHD in Reaches 1, 2, and 3, or (3) a temporary deviation from the LORS. The District is concerned that uncertainty as to the LORS interim nature may exist in the DRAFT SEIS, due to references to new schedules that may necessarily involve the extensive NEPA process. A firm and timely shift from this interim LORS must be defined. If this is not acceptable, please notify the District immediately.
- The District recognizes the public safety concerns associated with LORS implementation; however, once these issues are addressed, immediate implementation of an alternative schedule is necessary to address prolonged low Lake levels and the associated impacts on the Lake's ecology and water supply.

- ***General Operations:***

- We acknowledge that the USACE has addressed several of the District's previously transmitted concerns regarding the Non-Typical Operations and Additional Operational Flexibility. However, Section 3.4 entitled "Makeup Release Description" needs clarification. Makeup releases are problematic to define. To assure all stakeholders that the USACE will not be causing adverse impacts beyond those analyzed in the SEIS, the specific conditions and computations need to be more clearly stated. Examples with numbers would help.
- The Operational Guidance needs to include language addressing the use of C-10A and the L-8 and C-51 canals for conveying excess Lake water to tide. This operation has traditionally followed the estuary release decisions and is briefly addressed in the current water control plan. However, the operation should be more clearly stated within the new release guidance.

- The DRAFT SEIS still does not address the fact that due to the prolonged lower Lake stages caused by the proposed regulation schedule, there is an increased risk of failure to, and/or limited capability to operate, the northern gated spillway structures that discharge into Lake Okeechobee. These structures include S-71, S-72, S-84, S-65E, etc. The lower Lake stages will limit the ability of these structures to hold normal headwater stages without exceeding the design head across the structure. The SEIS needs to address this issue because the proposed action could decrease the water supply and flood control capability of these structures.
- **High Wet-Season Discharge Concerns:**
 - We are pleased that the modeling of the Preferred Alternative indicates the number of high discharge months to the Caloosahatchee and St. Lucie estuaries has been reduced, or at least equal to the No Action Plan, while providing incidental beneficial flows to these systems.
- **Endangered Species and Forward Pumps:**
 - The District anticipates inclusion of the U.S. Fish & Wildlife Service (FWS) Biological Opinion for this proposed action in the final SEIS. Since the final Biological Opinion has not been made public, there still remains the possibility of a jeopardy opinion issued by the FWS regarding the Snail Kite. The potential that a jeopardy opinion could prohibit operation of the temporary forward pumps when the Lake reaches 10.2 NGVD is of grave concern to the District for economic impact and water supply programmatic reasons.
- **Documentation of STA Flow Constraint:**
 - The Dynamic Model for Stormwater Treatment Areas – Version 2 (DMSTA2, 6/30/06) was utilized to simulate phosphorus reductions within the stormwater treatment area. The results of the DMSTA modeling efforts were forwarded to the USACE; however, the summary was not incorporated into the Draft SEIS. The District recommends inclusion of this information as an appendix to the SEIS.

We again welcome the opportunity to continue to working collaboratively with the USACE to develop the Interim Lake Okeechobee Regulation Schedule. Thank you for considering these comments.

Sincerely,



Carol Ann Wehle
Executive Director
South Florida Water Management District

CAW/ko

Enclosures:

Enclosure A - Chapter 40E-8, and excerpts from Chapters 40E-21 and 40E-22, F.A.C.

Enclosure B - Lake Okeechobee Water Shortage Management Plan

Colonel Paul L. Grosskruger

August 20, 2007

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**Rules of the
South Florida Water Management District**

**REGIONAL WATER
SHORTAGE PLANS
Chapter 40E-22, F.A.C.**



Amended September 10, 2001

CHAPTER 40E-22 — REGIONAL WATER SHORTAGE PLANS

PART I LAKE ISTOKPOGA — INDIAN PRAIRIE AREA

- 40E-22.011 Policy and Purpose.
- 40E-22.061 Indian Prairie Basin Boundary.
- 40E-22.072 Minimum Levels.
- 40E-22.082 Minimum Flows.
- 40E-22.112 Permit Classification.
- 40E-22.122 Termination of Withdrawals.
- 40E-22.132 Water Shortage Plan.

PART II ST. LUCIE COUNTY AGRICULTURAL AREA

- 40E-22.212 Policy and Purpose.
- 40E-22.222 St. Lucie County Agricultural Area Boundary.
- 40E-22.232 Minimum Levels.
- 40E-22.242 Minimum Flows.
- 40E-22.252 Permit Classification.
- 40E-22.262 Termination of Withdrawals.
- 40E-22.272 Water Use Restrictions.

PART III LAKE OKEECHOBEE REGION

- 40E-22.312 Policy and Purpose.
- 40E-22.322 Geographic Application.
- 40E-22.332 Water Shortage Triggers.

PART I LAKE ISTOKPOGA — INDIAN PRAIRIE AREA

40E-22.011 — Policy and Purpose.

This part establishes minimum water levels for Lake Istokpoga and the canals within the Indian Prairie Basin, minimum flows for the canals within the Indian Prairie Basin and Arbuckle Creek and Josephine Creek and a permit classification system and water shortage plan for the Lake Istokpoga-Indian Prairie Area. The rules in this part apply to water withdrawals from Lake Istokpoga and the Indian Prairie Basin.

Specific Authority 373.044, 373.113 FS.

Law Implemented 373.042, 373.086, 373.103(4), 373.175, 373.246 FS.

History — New 9-3-81, Formerly 16K-30.01, 40E-21.011.

40E-22.061 — Indian Prairie Basin Boundary.

(See Figure 21-1.) The Indian Prairie Basin includes the areas within the following boundaries: Begin at the northeast corner of Section 1, Township 38 South, Range 33

(1) When Canal 25 is less than 10.0 feet above mean sea level at Structure 50, the District may, upon notice, initiate restrictions upon agricultural, livestock, mining, industrial and recreational uses which receive their water from the section of Canal 25 between Structure 99 and Structure 50. Restrictions shall remain in force until that section of Canal 25 rises above 10.0 feet mean sea level and the District has given notice that withdrawals may be resumed.

(2) When Canal 25 is less than 8.0 feet above mean sea level at Structure 50, the District may, upon notice, initiate restrictions upon public supply uses which receive their water from the section of canal 25 between Structure 99 and Structure 50. Restrictions shall remain in force until that section of Canal 25 rises above 8.0 feet above mean sea level and the District has given notice that withdrawals may be resumed.

Specific Authority 373.044, 373.113 FS.

Law Implemented 373.086, 373.103(4), 373.246 FS.

History — New 9-3-81, Formerly 16K-31.07, 40E-21.272.

PART III LAKE OKEECHOBEE REGION

40E-22.312 Policy and Purpose.

This section identifies water levels within Lake Okeechobee that will be considered by the Governing Board in declaring a water shortage pursuant to Rule 40E-21.231, F.A.C. The rules in this section apply to the withdrawal of surface water from the Lake Okeechobee Region as depicted on Figure 21-4 and described in Subsection 40E-21.691(3), F.A.C., and the Brighton Reservation in accordance with the terms of the Water Rights Compact Among the Seminole Tribe of Florida, the state of Florida, and the South Florida Water Management District ("Seminole Compact").

Specific Authority 373.044, 373.113 FS.

Law Implemented 373.042, 373.0421, 373.086, 373.103(4), 373.175, 373.246 FS.

History – New, 9-10-01.

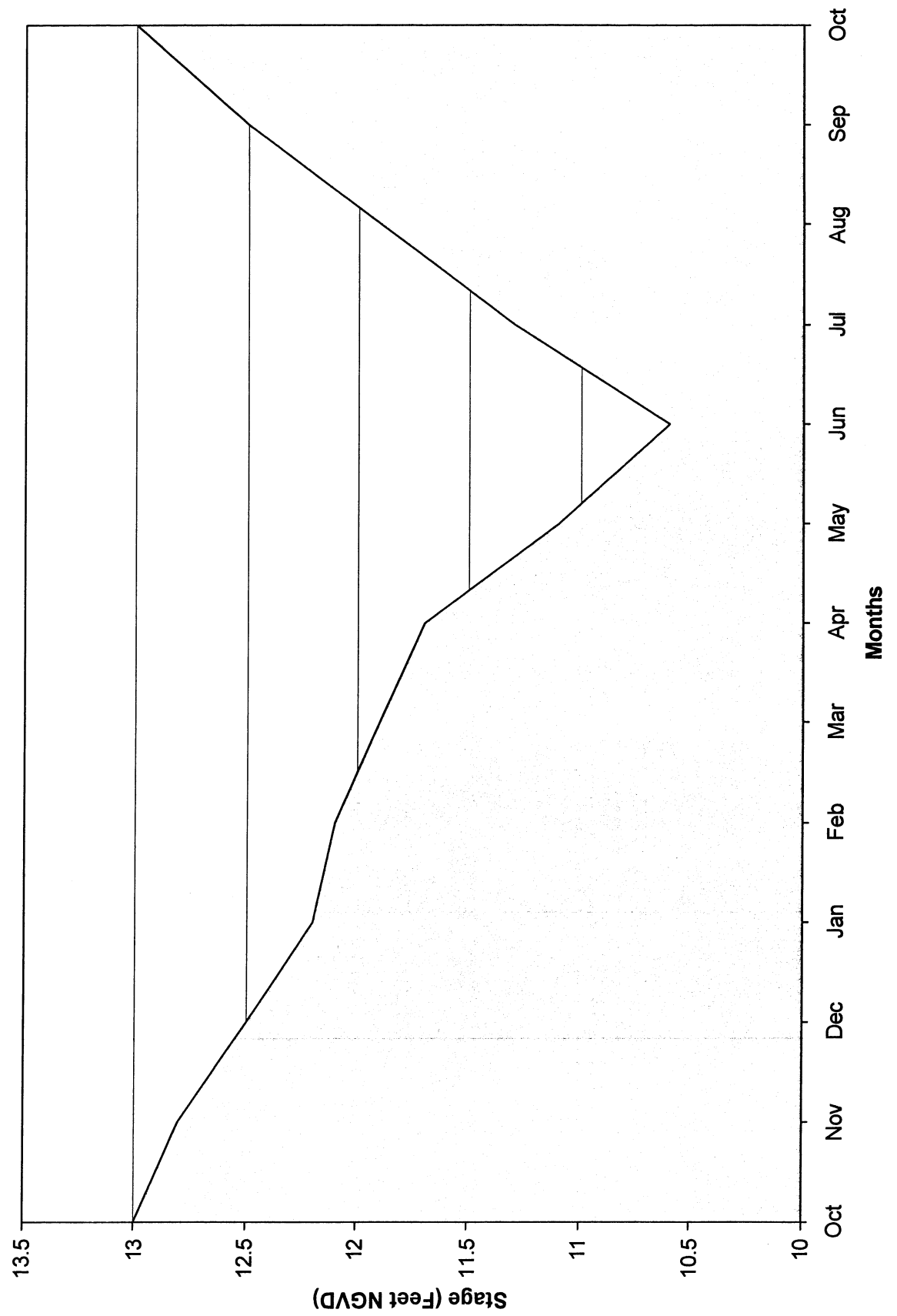
40E-22.322 Geographic Application.

This rule shall be applied to the Lake Okeechobee Region described in Subsection 40E-21.691(3), F.A.C., and the Brighton Reservation in accordance with the terms of the Seminole Compact. In addition, depending upon particular hydrologic conditions, restrictions imposed under this section may be applied to agricultural users of Lake Okeechobee and its connected canal system that are in areas outside the Lake Okeechobee Region. Such areas will be identified, as appropriate in the specific water shortage order declaring the restrictions.

Specific Authority 373.044, 373.113 FS.

Law Implemented 373.042, 373.0421, 373.086, 373.103(4), 373.175, 373.246 FS.

**Fig 22-4: Water Shortage Trigger Levels for Lake Okeechobee
as Referenced in Rule 40E-22.332, F.A.C.**



**Rules of the
South Florida Water Management District**

**Minimum Flows and Levels
Chapter 40E-8, F.A.C.**



Amended April 23, 2007

CHAPTER 40E-8 MINIMUM FLOWS AND LEVELS

- 40E-8.011 Purpose and General Provisions
- 40E-8.021 Definitions
- 40E-8.221 Minimum Flows and Levels: Surface Waters
- 40E-8.231 Minimum Levels: Aquifers
- 40E-8.321 Minimum Flows and Levels: Surface Waters
- 40E-8.331 Minimum Levels: Aquifers
- 40E-8.341 Minimum Flows and Levels: Surface Waters for Upper East Coast
Regional Planning Area
- 40E-8.351 Minimum Levels: Surface Waters for Kissimmee Basin Regional Planning
Area
- 40E-8.421 Prevention and Recovery Strategies
- 40E-8.431 Consumptive Use Permits
- 40E-8.441 Water Shortage Plan Implementation

40E-8.011 Purpose and General Provisions.

(1) The purpose of this chapter is:

(a) To establish minimum flows for specific surface watercourses and minimum water levels for specific surface waters and specific aquifers within the South Florida Water Management District, pursuant to Section 373.042, F.S.; and

(b) To establish the rule framework for implementation of recovery and prevention strategies, developed pursuant to Section 373.0421, F.S.

(2) Minimum flows are established to identify where further withdrawals would cause significant harm to the water resources, or to the ecology of the area. Minimum levels are established to identify where further withdrawals would cause significant harm to the water resources of the area. Specific minimum flows and levels (MFLs) are established in this rule for specified priority water bodies that have been designated pursuant to Section 373.042(2), F.S.

(3) The MFLs established herein are based on existing best available information, and will be periodically reviewed, at least every five years, based on new information and changing water resource conditions. Revisions to established MFLs will be peer reviewed as required by Section 373.042, F.S., prior to rule adoption. The minimum flow criteria for the Caloosahatchee River in subsection 40E-8.221(2), F.A.C., shall be reviewed within one year of the effective date of this rule, September 10, 2001, and amended, as necessary, based on best available information.

(4) The recovery and prevention strategies set forth in Rule 40E-8.421, F.A.C., the consumptive use permitting procedures described in paragraph 40E-2.301(1)(i), Rule 40E-8.431, F.A.C., Section 3.9 of the "Basis of Review for Water Use Permit Applications within the South Florida Water Management District – September 10, 2001," the water shortage plan implementation provisions specified in Rules 40E-8.441, 40E-21.531, and 40E-21.541, and Part III of Chapter 40E-22, F.A.C., September 10, 2001, are inseparable components of the minimum flows and levels established in Rules 40E-8.321 and 40E-8.331, F.A.C., September 10, 2001. The District would not have adopted the minimum flows and levels set forth in Rules 40E-8.321 and 40E-8.331, F.A.C., for Lake Okeechobee, the Everglades, the Biscayne Aquifer, the Lower

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40E-21.521 Phase I Moderate Water Shortage.

(1) (a) through (e) No change.

(f) Diversion and Impoundment into Non-District Facilities. Water used for diversion and impoundment into non-District facilities shall be voluntarily reduced; however, the diversion of surface water from sources in the Lake Okeechobee Region as depicted on Figure 21-4 and described in subsection 40E-21.691(3), F.A.C., shall be subject to the restrictions described in subparagraph (2)(a)6., below.

(2) Agriculture.

(a) Agricultural Use:

1. through 5. No change.

6. The District's allocation determination for agricultural irrigation within the entire Lake Okeechobee Region as depicted on Figure 21-4 will be based on 15% cutbacks to the calculated 1 in 10 supplemental crop demands calculated on a weekly basis. The 1 in 10 demands for the Lake Okeechobee Region are derived by applying frequency analysis to weekly supplemental irrigation demands estimated by historical conditions. The entire Lake Okeechobee Region supplemental crop demands will be distributed among the sub-basins depicted in Figure 21-4 based on a grouping of crops types, irrigation methods (e.g. flood irrigated crops versus micro irrigated crops), the associated acreage totals as identified in the individual water use permits combined with the associated 1 in 10 evapotranspiration demands of the crops. An additional amount of water from Lake Okeechobee will be added to the weekly allocation as

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necessary to account for conveyance losses that occur through seepage and free surface evaporation from the Central and Southern Florida Flood Control System Project canals. The share of the entire Lake Okeechobee Region irrigation allocation available to each sub-basin may be further adjusted to prioritize water deliveries among crops, as long as the sum of the sub-basin allocations does not exceed the weekly allocation for the entire Lake Okeechobee Region and that equity among users and sub-basins is assured. Such adjustments shall be based upon irrigation efficiency, potential for economic loss, and acreage irrigated as opposed to non-irrigated acreage.

Withdrawals by each permitted user within the Lake Okeechobee Region as described in subsection 40E-21.691(3), F.A.C., shall be limited to an amount that represents each user's share of their sub-basin weekly allocation based on their permitted crop type and irrigated acreage ~~the total allocation for agricultural irrigation made by the District from Lake Okeechobee (Lake) for that month and in that basin. The District shall provide the users with the data necessary to calculate their weekly allotment of water. The District's allocation determination for agricultural irrigation within the Lake Okeechobee Region will be based on its evaluation of the supply capabilities of the source class, the supply capabilities of other source classes available in the area, the needs of agriculture and other users in the area, and the District's overall management strategy for handling the uncertainties of future climatological events. The share of the total agricultural irrigation allocation available to each user will be based on any prioritization among crops the District establishes based on irrigation efficiency, economic loss~~

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~~and equity considerations, and the acreage and quantity of withdrawals for which the user has been permitted. The District's allocation determination for agricultural irrigation within the Lake Okeechobee Region will be based on the supply capacity of Lake Okeechobee assuming a June 1st lake stage of 10.5 feet NGVD.~~

(2) (b) through (e) No change.

(3) through (4) No change.

Specific Authority 373.044, 373.113 FS. Law Implemented 373.042, 373.0421, 373.175, 373.246 FS. History—New 5-31-82, Amended 1-26-86, 2-14-91, 9-10-01, _____.

40E-21.531 Phase II Severe Water Shortage.

(1)(a) through (e) No change.

(f) Diversion and Impoundment into Non-District Facilities. 4- Water used for diversion and impoundment into non-District facilities shall be voluntarily reduced; however, the diversion of surface water from sources in the Lake Okeechobee Region as depicted on Figure 21-4 and described in subsection 40E-21.691(3), F.A.C., shall be subject to the restrictions described in subparagraph (2)(a)6., below.

(2) Agriculture.

(a) Agricultural Use.

1. through 5. No change.

6. The District's allocation determination for agricultural irrigation within the entire Lake Okeechobee Region as depicted on Figure 21-4 will be based on

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30% cutbacks to the calculated 1 in 10 supplemental crop demands calculated on a weekly basis. The 1 in 10 demands for the Lake Okeechobee Region are derived by applying frequency analysis to weekly supplemental irrigation demands estimated by historical conditions. The entire Lake Okeechobee Region supplemental crop demands will be distributed among the sub-basins depicted in Figure 21-4 based on a grouping of crops types, irrigation methods (e.g. flood irrigated crops versus micro irrigated crops), the associated acreage totals as identified in the individual water use permits combined with the associated 1 in 10 evapotranspiration demands of the crops. An additional amount of water from Lake Okeechobee will be added to the weekly allocation as necessary to account for conveyance losses that occur through seepage and free surface evaporation from the Central and Southern Florida Flood Control System Project canals. The share of the entire Lake Okeechobee Region irrigation allocation available to each sub-basin may be further adjusted to prioritize water deliveries among crops, as long as the sum of the sub-basin allocations does not exceed the weekly allocation for the entire Lake Okeechobee Region and that equity among users and sub-basins is assured. Such adjustments shall be based upon irrigation efficiency, potential for economic loss, and acreage irrigated as opposed to non-irrigated acreage. Withdrawals by each permitted user within the Lake Okeechobee Region as described in subsection 40E-21.691(3), F.A.C., shall be limited to an amount that represents each user's share of their sub-basin weekly allocation based on their permitted crop type and irrigated acreage ~~the total allocation for agricultural~~

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~~irrigation made by the District from Lake Okeechobee (Lake) for that month and in that basin. The District shall provide the users with the data necessary to calculate their weekly allotment of water. The District's allocation determination for agricultural irrigation within the Lake Okeechobee Region will be based on its evaluation of the supply capabilities of the source class, the supply capabilities of other source classes available in the area, the needs of agriculture and other users in the area, and the District's overall management strategy for handling the uncertainties of future climatological events. The share of the total agricultural irrigation allocation available to each user will be based on any prioritization among crops the District establishes based on irrigation efficiency, economic loss and equity considerations, and the acreage and quantity of withdrawals for which the user has been permitted. The District's allocation determination for agricultural irrigation within the Lake Okeechobee Region will be based on the supply capacity of Lake Okeechobee assuming a June 1st lake stage of 10.5 feet NGVD.~~

(2) (b) through (e) No change.

(3) through (4) No change.

Specific Authority 373.044, 373.113 FS. Law Implemented 373.042, 373.0421, 373.175, 373.246 FS. History—New 5-31-82, Amended 1-26-86, 2-14-91, 9-10-01, _____.

40E-21.541 Phase III Extreme Water Shortage.

(1) (a) through (e) No change.

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(f) Diversion and Impoundment into Non-District Facilities. 4. Water used for diversion and impoundment into non-District facilities shall be voluntarily reduced; however, the diversion of surface water from sources in the Lake Okeechobee Region as depicted on Figure 21-4 and described in subsection 40E-21.691(3), F.A.C., shall be subject to the restrictions described in subparagraph (2)(a)6., below.

(2) Agriculture.

(a) Agricultural Use.

1. through 4. No Change.

5. The District's allocation determination for agricultural irrigation within the entire Lake Okeechobee Region as depicted on Figure 21-4 will be based on 45% cutbacks to the calculated 1 in 10 supplemental crop demands calculated on a weekly basis. The 1 in 10 demands for the Lake Okeechobee Region are derived by applying frequency analysis to weekly supplemental irrigation demands estimated by historical conditions. The entire Lake Okeechobee Region supplemental crop demands will be distributed among the sub-basins depicted in Figure 21-4 based on a grouping of crops types, irrigation methods (e.g. flood irrigated crops versus micro irrigated crops), the associated acreage totals as identified in the individual water use permits combined with the associated 1 in 10 evapotranspiration demands of the crops. An additional amount of water from Lake Okeechobee will be added to the weekly allocation as necessary to account for conveyance losses that occur through seepage and free surface evaporation from the Central and Southern Florida Flood Control

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System Project canals. The share of the entire Lake Okeechobee Region irrigation allocation available to each sub-basin may be further adjusted to prioritize water deliveries among crops, as long as the sum of the sub-basin allocations does not exceed the weekly allocation for the entire Lake Okeechobee Region and that equity among users and sub-basins is assured. Such adjustments shall be based upon irrigation efficiency, potential for economic loss, and acreage irrigated as opposed to non-irrigated acreage. Withdrawals by each user within the Lake Okeechobee Region as described in subsection 40E-21.691(3), F.A.C., from each source class in each month shall be limited to an amount that represents each user's share of their sub-basin weekly allocation based on their permitted crop type and irrigated acreage the total allocation for agricultural irrigation made by the District from that source for that month and in that basin. The District shall provide the users with the data necessary to calculate their weekly allotment of water. The District's allocation determination for agricultural irrigation will be based on its evaluation of the supply capabilities of the source class, the supply capabilities of other source classes available in the area, the needs of agriculture and all other users in the area, and the District's overall management strategy for handling the uncertainties of future climatological events. The share of the total agricultural irrigation allocation available to each user will be based on any prioritization among crops the District establishes based on irrigation efficiency, economic loss and equity considerations and the acreage and quantity of withdrawals for which the user has been permitted. The District's allocation determination for

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~~agricultural irrigation within the Lake Okeechobee Region, as described in subsection 40E-21.691(3), F.A.C., will be based on the supply capacity of Lake Okeechobee as defined by the establishment of a temporary reference elevation.~~

~~a. The short and long term harm to the water resources and economy associated with further reduction in Lake stage;~~

~~b. The harm to the crops, and associated economic impacts, projected to result from the reduction or elimination of water supply; and~~

~~c. The projected drought duration.~~

~~The day to day operational decisions associated with implementing the temporary revised reference elevation shall be delegated to staff in the Phase III water shortage order. The governing board will be updated on a monthly basis at a governing board or other public meeting of past and projected changes to the temporary revised reference elevation.~~

6. (b) through (e) No change.

(3) through (4) No change.

Specific Authority 373.044, 373.113 FS. Law Implemented 373.042, 373.0421, 373.175, 373.246 FS. History—New 5-31-82, Amended 1-26-86, 2-14-91, 9-10-01, _____.

40E-21.551 Phase IV Critical Water Shortage.

(1) (a) through (e) No change.

(f) Diversion and Impoundment into Non-District Facilities. 4. Water used for diversion and impoundment into non-District facilities shall be voluntarily reduced; however, the diversion of surface water from sources in the Lake

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Okeechobee Region as depicted on Figure 21-4 and described in subsection 40E-21.691(3), F.A.C., shall be subject to the restrictions described in subparagraph (2)(a)6., below.

(2) Agriculture.

(a) Agricultural Use.

1. through 4. No change.

5. The District's allocation determination for agricultural irrigation within the entire Lake Okeechobee Region as depicted on Figure 21-4 will be based on 60% cutbacks to the calculated 1 in 10 supplemental crop demands calculated on a weekly basis. The 1 in 10 demands for the Lake Okeechobee Region are derived by applying frequency analysis to weekly supplemental irrigation demands estimated by historical conditions. The entire Lake Okeechobee Region supplemental crop demands will be distributed among the sub-basins depicted in Figure 21-4 based on a grouping of crops types, irrigation methods (e.g. flood irrigated crops versus micro irrigated crops), the associated acreage totals as identified in the individual water use permits combined with the associated 1 in 10 evapotranspiration demands of the crops. An additional amount of water from Lake Okeechobee will be added to the weekly allocation as necessary to account for conveyance losses that occur through seepage and free surface evaporation from the Central and Southern Florida Flood Control System Project canals. The share of the entire Lake Okeechobee Region irrigation allocation available to each sub-basin may be further adjusted to prioritize water deliveries among crops, as long as the sum of the sub-basin

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allocations does not exceed the weekly allocation for the entire Lake Okeechobee Region and that equity among users and sub-basins is assured. Such adjustments shall be based upon irrigation efficiency, potential for economic loss, and acreage irrigated as opposed to non-irrigated acreage. Withdrawals by each user within the Lake Okeechobee Region as described in subsection 40E-21.691(3), F.A.C., from each source class in each month shall be limited to an amount that represents each user's share of their sub-basin weekly allocation based on their permitted crop type and irrigated acreage the total allocation for agricultural irrigation made by the District from that source for that month and in that basin. The District shall provide the users with the data necessary to calculate their weekly allotment of water. The District's allocation determination for agricultural irrigation will be based on its evaluation of the supply capabilities of the source class, the supply capabilities of other source classes available in the area, the needs of agriculture and all other users in the area, and the District's overall management strategy for handling the uncertainties of future climatological events. The share of the total agricultural irrigation allocation available to each user will be based on any prioritization among crops the District establishes based on economic loss and equity considerations and the acreage and quantity of withdrawals for which the user has been permitted.

6.(b) through (e) No change.

(3) through (4) No change.

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Specific Authority 373.044, 373.113 FS. Law Implemented 373.175, 373.246 FS.

History—New 5-31-82, Amended 1-26-86, 2-14-91, _____.

West Coast Aquifers, and the Caloosahatchee River without simultaneously adopting their related implementation rules. If the rules cited above, as they pertain to a specified MFL water body, are found to be invalid, in whole or in part, such specified minimum flow(s) or level(s) in Rule 40E-8.321 or 40E-8.331, F.A.C., (including Lake Okeechobee, Everglades, Biscayne Aquifer, Lower West Coast Aquifers, Caloosahatchee River) (month, year) shall not be adopted, or if already in effect, shall not continue to be applied, until the District amends the applicable regional water supply plan(s), as necessary, and amends the subject rules, as necessary to address the reason for invalidity consistent with the requirements of Section 373.0421, F.S. This section shall be triggered after a rule is found to be invalid pursuant to a final order issued under Section 120.56, F.S., and after appellate review remedies have been exhausted.

(5) In concert with establishment of the MFL for the Northwest Fork of the Loxahatchee River in subsection 40E-8.221(5), F.A.C., the District commits to the following activities that are described in greater detail in the Recovery and Prevention Strategy section, subsection 40E-8.421(6), F.A.C.:

(a) Restore freshwater flows to the Northwest Fork of the Loxahatchee River beyond the MFL by developing programs and projects that will provide surface water flows as identified in a practical restoration goal and plan, to be developed with the Florida Department of Environmental Protection.

(b) Implement the restoration plan through structural and non-structural projects associated with the Comprehensive Everglades Restoration Plan and the regional water supply plan;

(c) Establish water reservations to deliver and protect water supplies for restoration of the Loxahatchee River; and

(d) Revise the MFL and the associated recovery and prevention strategy, as necessary, to be consistent with established restoration goals and future water reservations.

(e) Establish Minimum Flows and levels for other tributaries to the Northwest Fork of the Loxahatchee River including Loxahatchee Slough, Cypress Creek, Kitching Creek and Hobe Grove Ditch as committed to in the District's Priority Water Body List, as updated.

Specific Authority §§ 9, 10 P.L. 83-358, 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History—New 9-10-01, Amended 4-1-03, 1-19-06.

40E-8.021 Definitions.

The terms set forth herein shall have the meanings ascribed to them, unless the context clearly indicates otherwise, and such meanings shall apply throughout the rules contained in this chapter. The terms defined in Rule 40E-8.021, F.A.C., shall apply throughout the District's consumptive use permit rules. In the event of a conflict or difference between the definitions contained in Rule 40E-8.021, F.A.C., and the definitions set forth in other District rules, the definitions in this Rule 40E-8.021, F.A.C., shall control for purposes of this chapter.

(1) Biscayne Aquifer – means the highly permeable surficial strata (hydraulic conductivities generally greater than 500 ft/day) that occur within Monroe, Miami-Dade (excluding those portions of coastal Monroe and Miami-Dade counties that discharge

groundwater into Florida and Biscayne Bays), eastern Broward, and portions of eastern Palm Beach counties.

(2) Caloosahatchee River – means the surface waters that flow through the S-79 structure, combined with tributary contributions below S-79 that collectively flow southwest to San Carlos Bay.

(3) C&SF Project – means the project for Central and Southern Florida authorized under the heading 'CENTRAL AND SOUTHERN FLORIDA' in section 203 of the Flood Control Act of 1948 (Chapter 771).

(4) CERP – means the Comprehensive Everglades Restoration Plan contained in the 'Final Integrated Feasibility Report and Programmatic Environmental Impact Statement', dated April 1, 1999, as modified by the Water Resources Development Act of 2000.

(5) Certification or Certify – means the formal determination by the District, through a validation process consistent with state and federal law, of the total amount of water made available by a project or project phase of a recovery or prevention strategy, as appropriate, for natural systems and other uses.

(6) Direct Withdrawal means:

(a) A ground water withdrawal that causes a water table drawdown greater than 0.1 feet, as determined using a model accepted by the District, at any location beneath the MFL surface water body or aquifer, up through a 1 in 10 year drought; or

(b) A surface water withdrawal from facilities physically located within the boundaries of a MFL surface water body.

(7) Everglades – means the lands and waters included within Water Conservation Areas, the Holeyland/Rotenberger wildlife management areas, and the freshwater portions of the Everglades National Park.

(8) Northeast Subregion of Florida Bay (hereinafter "Florida Bay") – means the bays, basins, and sounds within Taylor Slough and the C-111 Canal basin watersheds, including Long Sound, Little Blackwater Sound, Blackwater Sound, Buttonwood Sound, Joe Bay, Little Madeira Bay, Madeira Bay, Terrapin Bay, Eagle Key Basin, and other open waters of Florida Bay northeast of a boundary line between Terrapin Bay and Plantation Key (see Map 2).

(9) Harm – means the temporary loss of water resource functions, as defined for consumptive use permitting in Chapter 40E-2, F.A.C., that results from a change in surface or ground water hydrology and takes a period of one to two years of average rainfall conditions to recover.

(10) Indirect Withdrawal – means the withdrawal of water from a water source for a consumptive use that receives surface water or ground water from an MFL water body or is tributary to an MFL water body.

(11) Lake Istokpoga – means the lands and waters contained within the Lake below 40.0 feet NGVD, the top of the U.S. Army Corps of Engineers' regulation schedule.

(12) Lake Okeechobee – means the lands and waters contained within the perimeter of the Hoover Dike.

(13) LEC Plan – means the Lower East Coast Regional Water Supply Plan – May 2000, including all three volumes.

(14) Lower West Coast Aquifers – means the lower Tamiami aquifer, sandstone aquifer and the mid-Hawthorn aquifer that occur within Charlotte, Hendry, Glades, Lee

and Collier counties.

(15) LWC Plan – means the Lower West Coast Regional Water Supply Plan – April 2000, including all three volumes.

(16) Minimum Flow – means a flow established by the District pursuant to Sections 373.042 and 373.0421, F.S., for a given water body and set forth in Parts II and III of this chapter, at which further withdrawals would be significantly harmful to the water resources or ecology of the area.

(17) Minimum Flow and Level Exceedance – means to fall below a minimum flow or level, which is established in Parts II and III of this chapter, for a duration greater than specified for the MFL water body.

(18) Minimum Flow and Level Violation – means to fall below a minimum flow or minimum level, which is established in Parts II and III of this chapter, for a duration and frequency greater than specified for the MFL water body. Unless otherwise specified herein, in determining the frequency with which water flows and levels fall below an established MFL for purposes of determining an MFL violation, a “year” means 365 days from the last day of the previous MFL exceedance.

(19) Minimum Level – means the level of groundwater in an aquifer or the level of surface water established by the District pursuant to Sections 373.042 and 373.0421, F.S., in Parts II and III of this chapter, at which further withdrawals would be significantly harmful to the water resources of the area.

(20) MFL Water Body – means any surface water, watercourse, or aquifer for which an MFL is established in Part II or III of this chapter.

(21) Northwest Fork of the Loxahatchee River: Means those areas defined below:

(a) Northwest Fork of the Loxahatchee River that has been federally designated as Wild, Scenic and Recreational uses (as defined in the Loxahatchee River Wild and Scenic River Management Plan 2000) (see Map 1, incorporated herein), including the river channel that extends from river mile 6.0 (latitude 26.9856, longitude 80.1426) located near the eastern edge of Jonathan Dickinson State Park and continues upstream to the G-92 structure (latitude 26.91014, longitude 80.17578), including the C-14 Canal. The river channel includes the physical water flow courses and adjacent floodplain up to the limits of the floodplain swamp and wetlands within Riverbend Park, as determined by state wetland delineation criteria;

(b) Cypress Creek which extends westward from river mile 10.6 to the intersection of Gulf Stream Citrus Road (latitude 26.96484, longitude 80.1855) located approximately one mile west of the Florida Turnpike and includes its natural river channels and contiguous floodplain as determined by state wetland delineation criteria;

(c) Kitching Creek which extends from river mile 8.1 (latitude 26.9908, longitude 80.1540) northward through Jonathan Dickinson State Park to north of Bridge Road (latitude 27.05513, longitude 80.17580), including its natural river channels and contiguous floodplain as determined by state wetland delineation criteria; and

(d) Hobe Grove Ditch which extends west from river mile 9.1 (latitude 26.9854, longitude 80.1594) westward to the Hobe-St. Lucie Conservancy District pump station outfall (latitude 26.5908, longitude 80.1031) including its natural river channels and contiguous floodplain as determined by state wetland delineation criteria.

(22) Operations – means activities taken by the District for the movement of surface water through works of the District pursuant to Chapter 373, F.S.

(23) Parts Per Thousand (ppt) – means in the measurement of salinity the total amount of salt in grams per 1000 grams of water. Practical salinity units (psu) similarly means a measure of salinity, but one that is based on conductivity of water at a standard temperature and pressure. Both terms are used interchangeably for purposes of this rule.

(24) Prevention Strategy(ies) – means the structural and non-structural actions approved by the District in regional water supply plans, pursuant to Section 373.0421, F.S., or by rule, for areas where MFLs are currently not violated, but are projected to be violated within twenty (20) years of the establishment of the minimum flow or level, if said prevention strategies are not implemented.

(25) Recovery Strategy(ies) – means the structural and non-structural actions approved by the District in regional water supply plans, pursuant to Section 373.0421, F.S., or by rule, for areas where MFLs are currently violated.

(26) Regional Water Supply Plan – means a plan approved by the District pursuant to Section 373.0361, F.S.

(27) St. Lucie River North Fork – means the surface waters that extend from the Gordy Road Bridge structure (state plane coordinates, x851212.831, y1116105.7470), combined with tributary contributions below Gordy Road and collectively flow south to the confluence with the C-24 canal (state plane coordinates, x873,712.20, y1064,390.41).

(28) St. Lucie River South Fork – means the surface waters that extend from the culverts located at state plane coordinates x902,512.67, y1,001,799.91, north to the confluence of the river and the St. Lucie Canal (C-44).

(29) St. Lucie Estuary – means the surface water body south of the confluence of the St. Lucie River North Fork and C-24, north of the confluence of the St. Lucie River South Fork and C-44, and west of the western boundary of the Intracoastal Waterway, exclusive of canals.

(30) Serious Harm – means the long-term loss of water resource functions, as addressed in Chapters 40E-21 and 40E-22, F.A.C., resulting from a change in surface or ground water hydrology.

(31) Significant Harm – means the temporary loss of water resource functions, which result from a change in surface or ground water hydrology, that takes more than two years to recover, but which is considered less severe than serious harm. The specific water resource functions addressed by an MFL and the duration of the recovery period associated with significant harm are defined for each priority water body based on the MFL technical support document.

Specific Authority §§ 9, 10 P.L. 83-358, 373.044, 373.113, 373.119, 373.129, 373.136, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421, 373.175, 373.216, 373.219, 373.223, 373.246 FS. History—New 9-10-01, Amended 11-11-02, 4-1-03, 1-19-06, 12-12-06.

40E-8.221 Minimum Flows and Levels: Surface Waters.

The MFLs contained in this Part identify the point at which further withdrawals would cause significant harm to the water resources, or ecology, of the area as applicable, pursuant to Sections 373.042 and 373.0421, F.S. It is the District's intent to correct or prevent the violation of these MFLs through management of the water resources and implementation of a recovery strategy.

(1) Lake Okeechobee. An MFL violation occurs in Lake Okeechobee when an exceedance, as defined herein, occurs more than once every six years. An "exceedance" is a decline below 11 feet NGVD for more than 80, non-consecutive or consecutive, days, during an eighteen month period. The eighteen month period shall be initiated following the first day Lake Okeechobee falls below 11 feet NGVD, and shall not include more than one wet season, defined as May 31st through October 31st of any given calendar year.

(2) Caloosahatchee River. A minimum mean monthly flow of 300 CFS is necessary to maintain sufficient salinities at S-79 in order to prevent a MFL exceedance. A MFL exceedance occurs during a 365 day period, when:

(a) A 30-day average salinity concentration exceeds 10 parts per thousand at the Ft. Myers salinity station (measured at 20% of the total river depth from the water surface at a location of latitude 263907.260, longitude 815209.296; or

(b) A single, daily average salinity exceeds a concentration of 20 parts per thousand at the Ft. Myers salinity station. Exceedance of either paragraph (a) or (b), for two consecutive years is a violation of the MFL.

(3) Everglades.

(a) Criteria for Peat-Forming Wetlands. Water levels within wetlands overlying organic peat soils within the water conservation areas, Rotenberger and Holeyland wildlife management areas, and Shark River Slough (Everglades National Park) shall not fall 1.0 feet or more below ground surface, as measured at a key gage, for one or more days during a period in which the water level has remained below ground for a minimum of 30 days, at specific return frequencies as specified in Table 1, below.

(b) Criteria for Marl-Forming Wetlands. Water levels within marl-forming wetlands that are located east and west of Shark River Slough, the Rocky Glades, and Taylor Slough within Everglades National Park, shall not fall 1.5 feet below ground surface, as measured at a key gage, for one or more days during a period in which the water level has remained below ground for a minimum of 90 days, at specific return frequencies for different areas, as identified in Table 1, below.

The MFL criteria listed in Table 1 are based on existing changes and structural alterations to the pre-drainage conditions of the Everglades. It is the District's intent through implementation of the LEC Plan and the CERP to achieve minimum hydropattern return frequencies that approximate CERP compatible pre-drainage conditions in the Everglades. As a result, as the existing structural changes and alterations are corrected, the MFL criteria contained herein will be modified through a rule amendment consistent with the LEC Plan and the CERP.

(4) Northwest Fork of the Loxahatchee River.

(a) An enhanced freshwater regime is necessary to prevent significant harm to the water resources and ecology of the Northwest Fork of the Loxahatchee River, pursuant to Sections 373.042 and 373.0421, F.S. By establishing the MFL set forth in paragraphs

(b) and (c), along with implementation of the associated recovery strategy, it is the interim goal of the District to provide sufficient freshwater flows to create at River Mile 9.2 the freshwater regime found at River Mile 10.2.

(b) A MFL violation occurs within the Northwest fork of the Loxahatchee River when an exceedance, as defined in paragraph (c), occurs more than once in a six year period.

(c) A MFL exceedance occurs within the Northwest Fork of the Loxahatchee River when:

1. Flows over Lainhart Dam decline below 35 cfs for more than 20 consecutive days; or

2. The average daily salinity concentration expressed as a 20-day rolling average exceeds two parts per thousand. The average daily salinity will be representative of mid-depth in the water column (average of salinities measured at 0.5 meters below the surface and 0.5 meters above the bottom) at river mile 9.2 (latitude 26.9839, longitude 80.1609).

(d) In addition to this MFL, which is intended to achieve partial enhancement of the Northwest Fork of the Loxahatchee River to prevent significant harm, restoration of the Loxahatchee River beyond the MFL will be addressed pursuant to subsection 40E-8.421(6), F.A.C., and other applicable provisions of state law. This MFL will be reviewed within two years of adoption and revised, if necessary, to ensure consistency with the restoration goal and plan identified pursuant to Rule 40E-8.421, F.A.C., or other applicable provisions of state law.

(5) Florida Bay.

(a) The minimum flow is that necessary to maintain salinity as described in paragraph (b), below. A net discharge into northeastern Florida Bay of 105,000 acre-feet of water over a 365-day period (a running total measured at West Highway Creek, at 25°14'33" north and 80°26'50" west; Trout Creek, at 25°12'53" north and 80°32'01" west; Mud Creek, at 25°12'09" north and 80°35'01" west; Taylor River, at 25°11'27" north and 80°38'21" west; and McCormick Creek, at 25°10'03" north and 80°43'55" west), is estimated to be necessary to maintain salinity as described in paragraph (b), below.

(b) An exceedance of the minimum flow criteria will be deemed to occur when the average salinity over 30 or more consecutive days exceeds 30 parts per thousand at the Taylor River salinity monitoring station, located at 25°13'29" north and 80°39'10" west. Multiple events of 30 or more day periods with salinity greater than 30 parts per thousand, occurring within a single calendar year, are considered as a single exceedance.

(c) A minimum flow violation occurs when an exceedance occurs during each of two consecutive years, more often than once in a ten-year period. By this definition, three consecutive years of exceedances constitute a violation.

Specific Authority §§ 9, 10 P.L. 83-358, 373.042, 373.044, 373.113, 373.119, 373.129, 373.136, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421, 373.175, 373.216, 373.219, 373.223, 373.246 FS. History—New 9-10-01, Amended 4-1-03, 12-12-06.

Table 1. Minimum water levels, duration and return frequencies for key water management gages located within the Everglades ^(1,2, 3)

Area	Key Gage	Soil Type & MFL Criteria	Return Frequency (years) (3)-(4)
WCA-1	1-7	Peat(1)	1 in 4
WCA-2A	2A-17	Peat	1 in 4
WCA-2B	2B-21	Peat	1 in 4
WCA-3A North	3A-NE	Peat	1 in 2
WCA-3A North	3A-NW	Peat	1 in 4
WCA-3A North	3A-2	Peat	1 in 4
WCA-3A North	3A-3	Peat	1 in 3
WCA-3A Central	3A-4	Peat	1 in 4
WCA-3A South	3A-28	Peat	1 in 4
WCA-3B	3B-SE	Peat	1 in 7
Rotenberger WMA	Rotts	Peat	1 in 2
Holeyland WMA	HoleyG	Peat	1 in 3
NE Shark Slough	NESRS-2	Peat	1 in 10
Central Shark Slough	NP-33	Peat	1 in 10
Central Shark Slough	NP-36	Peat	1 in 7
Marl wetlands east of Shark Slough	NP-38	Marl (2)	1 in 3
Marl wetlands west of Shark Slough	NP-201 G-620	Marl	1 in 5
Rockland marl marsh	G-1502	Marl	1 in 2
Taylor Slough	NP-67	Marl	1 in 2

(1) = MFL Criteria for Peat-forming wetlands: Water levels within wetlands overlying organic peat soils within the water conservation areas, Rotenberger and Holeyland wildlife management areas, and Shark River Slough (Everglades National Park) shall not fall 1.0 feet or more below ground surface, as measured at a key gage, for one or more days during a period in which the water level has remained below ground for at least 30 days, at specific return frequencies shown above.

(2) = MFL Criteria for Marl-forming wetlands: Water levels within marl-forming wetlands that are located east and west of Shark River Slough, the Rocky Glades, and Taylor Slough within the Everglades National Park, shall not fall 1.5 ft. below ground surface, as measured at a key gage, for one or more days during a period in which the water level has remained below ground for at least 90 days, at specific return frequencies for different areas, as shown above.

(3) = Return frequencies were developed using version 3.7 of the South Florida Water Management Model (SFWMM) and are the same as those stated on page 168, Table 44 of the adopted LEC Regional Water Supply Plan (May 2000).

(4) = MFL depth, duration and return frequencies are based on historic rainfall conditions for the 31 year period of record from 1965 to 1995.

40E-8.231 Minimum Levels: Aquifers.

Biscayne Aquifer – The minimum level for the Biscayne aquifer is the level that results in movement of the saltwater interface landward to the extent that ground water quality at an established withdrawal point is insufficient to serve as a water supply source. A MFL violation occurs when water levels within the aquifer produce this degree of saltwater movement at any point in time.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 9-10-01.

40E-8.321 Minimum Flows and Levels: Surface Waters.

The MFLs contained in this Part identify the point at which further withdrawals would cause significant harm to the water resources or ecology, of the area, as applicable, pursuant to Sections 373.042 and 373.0421, F.S. It is the District's intent to correct or prevent the violation of these criteria through management of the water resources.

Specific Authority 373.044, 373.113, 373.119, 373.129, 373.136, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421, 373.175, 373.216, 373.219, 373.223, 373.246 FS. History–New 9-10-01.

40E-8.331 Minimum Levels: Aquifers.

The minimum levels for the lower Tamiami aquifer, the Sandstone aquifer and the mid-Hawthorn aquifer shall equal the structural top of the aquifer. A violation of this criteria occurs when the water levels drop below the top of the uppermost geologic strata that comprises the aquifer, at any point in time. Water level measurements that are made to monitor the conditions of the aquifers for the purpose of this rule shall be located no closer than 50 feet from any existing pumping well.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 9-10-01.

40E-8.341 Minimum Flows and Levels: Surface Waters for Upper East Coast Regional Planning Area.

St. Lucie Estuary – mean monthly flows to the St. Lucie Estuary should not fall below 28cfs from the Gordy Road structure to the St. Lucie River North Fork for two consecutive months during a 365-day period, for two consecutive years.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 11-11-02.

40E-8.351 Minimum Levels: Surface Waters for Kissimmee Basin Regional Planning Area.

Lake Istokpoga – An MFL violation occurs in Lake Istokpoga when surface water levels fall below 36.5 feet NGVD for 20 or more weeks, within a calendar year, more often than once every four years.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 1-19-06.

40E-8.421 Prevention and Recovery Strategies.

(1) At the time of adoption of this rule, the existing flow or level for certain specified water bodies is below, or within 20 years is projected to fall below, the applicable MFL. For this reason, Section 373.0361, F.S., requires regional water supply plans to contain recovery and prevention strategies, including water resource development and water supply development projects that are needed to achieve compliance with MFLs during the planning period. The implementation of such projects will allow for the orderly replacement or enhancement of existing water sources with alternative supplies in order to provide sufficient water for all existing and projected reasonable-beneficial uses, consistent with Section 373.0421, F.S.

(a) MFLs and recovery and prevention strategies will be implemented in phases with consideration of the District's missions in managing water resources, including water supply, flood protection, environmental enhancement and water quality protection, as required by Section 373.016, F.S.

(b) MFLs are implemented to prevent significant harm to the water resources and, where applicable, the ecology of the area due to further withdrawals (Sections 373.042 and 373.0421, F.S.). A consumptive use permitting program is implemented to prevent harm to the water resource (Section 373.219, F.S.). A water shortage program is implemented to prevent serious harm to the water resource (Sections 373.175 and 373.246, F.S.). Additionally, the protection of water resources will, in part, be achieved through the reservation of water for fish and wildlife or public health and safety (Section 373.223(4), F.S.). The conceptual model identifying the relationships between these water resource protection requirements is set forth in Figure I in this Part.

(c) The rules implementing water resource protection tools, including Chapters 40E-2, 40E-8, 40E-20, 40E-21, 40E-22, F.A.C., and the "Basis of Review for Consumptive Use Permits Within the South Florida Water Management District – April 23, 2007", identify the specific factors and conditions that will be applied and considered in implementing the conceptual model. Due to the extreme variations in water resource conditions, climatic conditions, hydrologic conditions, and economic considerations that will be faced when implementing these rules, it is critical to apply such criteria flexibly and to reserve for the governing board the ability to implement water resource protection and allocation programs considering all of the District's missions under Chapter 373, F.S., and to balance water supply, flood protection, resource protection and water quality protection needs. Implementation of the recovery and prevention strategies will be achieved in compliance with the assurances to consumptive users and to natural systems contained in the LEC Plan and the LWC Plan.

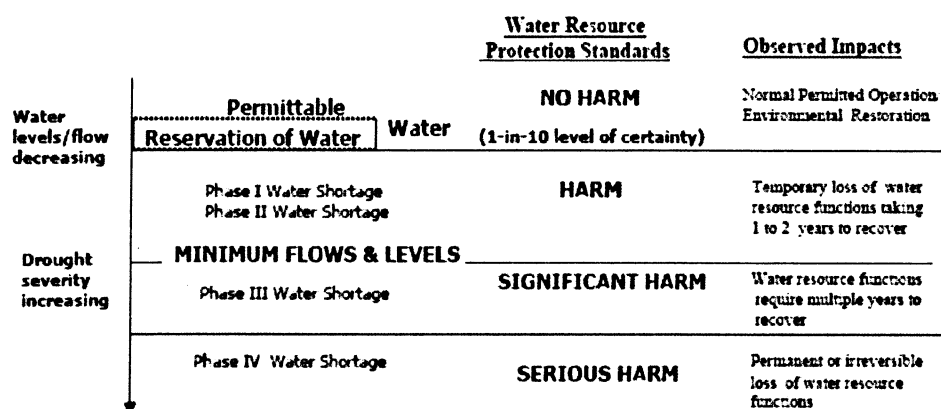
(d) The phasing and timetables for implementation of structural components in recovery and prevention strategies contained in approved regional water supply plans

are found to meet the requirements in Section 373.0421(2), F.S., for the expeditious and practicable recovery of the MFLs.

(e) Upon completion of each project or project phase of a recovery or prevention plan the District will certify the availability of water, as defined in subsection 40E-8.021(5), F.A.C.

(f) In order to ensure that the actual and projected performance of prevention and recovery strategies approved in the regional waters supply plans is sufficient to meet water resource needs, including MFLs, and the existing and projected reasonable-beneficial uses, the District will update recovery and prevention strategies on a periodic basis, based on new information and system performance. The performance of the recovery and prevention strategies in comparison to the performance projected in the regional water supply plans, will be assessed by the District for each recovery or prevention strategy phase. Based on the actual performance and new information obtained regarding the water resources, the District will review and revise, if necessary, recovery and prevention strategies through the regional water supply plan update process every five years, or sooner, as required by Section 373.0361, F.S. At that time, the governing board will determine if rule modifications to the MFL or recovery and prevention strategies are necessary to continue to meet the requirements of Sections 373.042 and 373.0421, F.S.

Figure 1: Conceptual Relationship Among the Harm, Serious Harm and Significant Harm Standards



Harm Standards

(2) The Everglades and the Caloosahatchee River.

(a) As the effective date of this rule, September 10, 2001, the Everglades and Caloosahatchee River have experienced MFL violations. As a result, the LEC Plan and the LWC Plan contain approved recovery strategies, pursuant to Section 373.0421, F.S. Included in these recovery and prevention strategies is the CERP.

(b) MFLs for many areas within the Everglades and the Caloosahatchee River, served by the C&SF Project, will not be achieved immediately upon adoption of this rule largely because of the lack of adequate regional storage or ineffective water drainage and distribution infrastructure. Although not all locations within the Everglades are

currently in violation of the proposed MFL, the Everglades, as a whole, is subject to a recovery strategy. The LEC Plan identifies the structural and non-structural remedies necessary for the recovery of MFL water bodies. These structural and non-structural remedies are also intended to restore the Everglades and the Caloosahatchee River above the MFLs, through Chapter 373, F.S., authorities of the District. The projected long-term restoration of flows and levels in the Everglades resulting from implementation of the LEC Plan and the CERP is documented in the LEC Plan, and are intended to more closely approximate "pre-drainage" conditions. The planned components include implementing consumptive use and water shortage programs, removing conveyance limitations, implementing revised C&SF Project operational programs, storing additional freshwater, reserving water for the protection of fish and wildlife, and developing alternative sources for water supply. These components will be implemented over the next 20 years, resulting in a phased restoration of the affected areas.

(c) The District, as the U.S. Army Corps of Engineers' local sponsor of the C&SF Project, is charged with implementing the CERP, in accordance with the Water Resources Development Act of 2000 (WRDA), Title VI entitled "Comprehensive Everglades Restoration," and in accordance with State law. Assurances regarding water availability for consumptive uses and protection of natural systems are set forth in WRDA, Chapter 373, F.S., CERP and the LEC Plan, which will be followed by the District in implementing this chapter. Additional quantities of water for both consumptive uses and the natural systems made available from the CERP and other water resource development projects will be documented and protected on a project basis. For project components implemented under CERP, the additional quantity, distribution and timing of delivery of water that is made available for the natural system for consumptive use, will be identified consistent with purposes of the CERP. Under State law, water reservations and water allocations to consumptive uses will be utilized to protect water availability for the intended purposes.

(3) Lake Okeechobee. The LEC Plan contains an approved prevention strategy for Lake Okeechobee pursuant to Section 373.0421, F.S. The prevention strategy consists of implementing the District's water shortage plan, including supply side management, as simulated in the LEC Plan, and constructing and operating water supply and resource development projects.

(4) Biscayne Aquifer. The LEC Plan contains an approved prevention strategy for the Biscayne Aquifer pursuant to Section 373.0421, F.S., which consists of the following:

(a) Maintain coastal canal stages at the minimum operation levels shown in Table J-2 of the LEC Plan;

(b) Apply conditions for permit issuance in Chapter 40E-2 or 40E-20, F.A.C., to prevent the harmful movement of saltwater intrusion up to a 1-in-10 year level of certainty;

(c) Maintain a ground water monitoring network and utilize data to initiate water shortage actions pursuant to Rule 40E-8.441, F.A.C. and Chapters 40E-21 and 40E-22, F.A.C.;

(d) Construct and operate water resource and water supply development projects; and

(e) Conduct research in high risk areas to identify where the portions of the saltwater front is adjacent to existing and future potable water sources.

(5) Lower West Coast Aquifers. The LWC Plan identifies a prevention strategy for the LWC Aquifers, pursuant to Section 373.0421, F.S., as follows:

(a) Establish “no harm” maximum permittable levels for each aquifer (regulatory levels) for a 1-in-10 year level of certainty;

(b) Implement rule criteria to prevent harm through the consumptive use permitting process, including conditions for permit issuance in Rule 40E-2.301, F.A.C.;

(c) Construct and operate water resource and supply development projects; and

(d) Implement the water shortage plan in Chapter 40E-21, F.A.C., as needed to prevent serious harm during drought conditions in excess of a 1-in-10 year level of certainty.

(6) St. Lucie River and Estuary. The following is the prevention strategy for the St. Lucie River and Estuary:

(a) Discharges from the North Fork will be managed within the operational protocols of the Ten Mile Creek Project scheduled to be completed by 2004. Flow targets will be consistent with the CERP performance requirements for Indian River Lagoon.

(b) A research and monitoring strategy for the North and South Forks of the St. Lucie River will be developed and implemented in coordination with the Upper East Coast Regional Water Supply Plan update.

(7) Northwest Fork of the Loxahatchee River Recovery Strategy: Purpose and Intent.

(a) The Northwest Fork of the Loxahatchee River is currently not meeting the MFL and requires implementation of a recovery strategy to achieve the MFL as soon as practicable, consistent with Section 373.0421, F.S. The recovery strategy consists of projects contained within the following approved plans: the Lower East Coast Regional Water Supply Plan (LEC Plan), the Comprehensive Everglades Restoration Plan (CERP), and the Northern Palm Beach County Comprehensive Water Management Plan (NPBCCWMP). Four phases of recovery are identified in the Technical Documentation to Support Development of Minimum Flows and Levels for the Northwest Fork of the Loxahatchee River, November 2002, which are projected to increase flows to meet the MFL for the Northwest Fork of the Loxahatchee River. As part of the recovery strategy, as provided in this rule, the consumptive use permitting and water shortage requirements in this Chapter and Chapters 40E-2, 40E-20, 40E-21, F.A.C., and the “Basis of Review for Water Use Permit Applications within the South Florida Water Management District – April 23, 2007”, including Section 3.2.1.E. regarding Restricted Allocation Areas for Lower East Coast Everglades Waterbodies and North Palm Beach County/Loxahatchee River Watershed Waterbodies shall apply to consumptive use direct and indirect withdrawals from surface and groundwater sources from the Northwest Fork of the Loxahatchee River and those areas directly tributary to the Northwest Fork.

(b) In addition to implementation of this MFL recovery strategy, the District commits to restore freshwater flows to the Northwest Fork of the Loxahatchee River above the MFL through Chapter 373, F.S., and the Comprehensive Everglades Restoration Plan and its associated authorities. The District will continue to partner with the Florida Department of Environmental Protection in establishing a practical restoration goal and plan for the Loxahatchee River watershed. Recognizing that natural seasonal

fluctuations in water flows are necessary to ensure that the functions of the Loxahatchee River are protected, this restoration goal and plan will include a more complete set of seasonally managed flow criteria for the river that are driven primarily by natural rainfall and runoff patterns within the watershed.

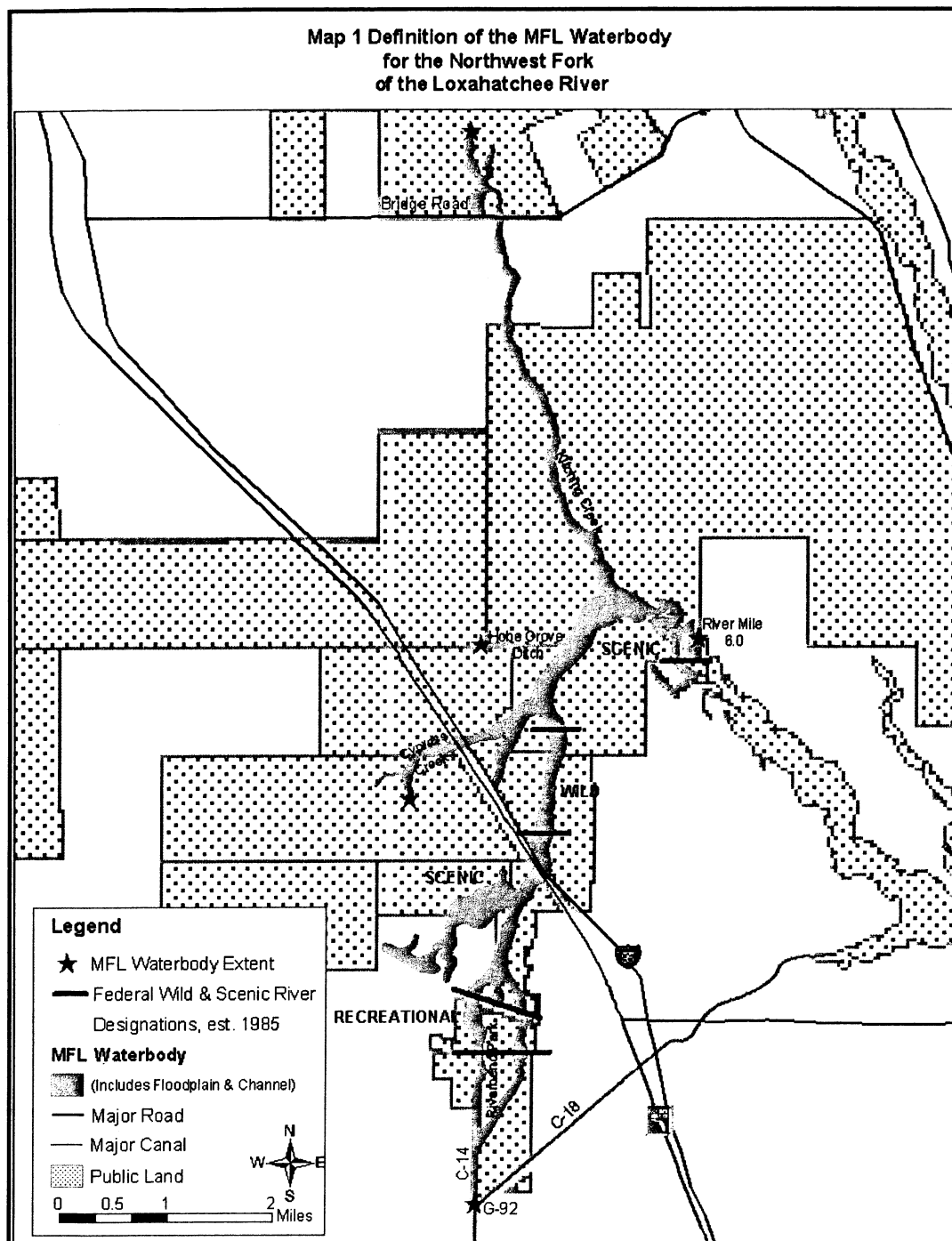
(c) The District shall continue to operate the G-92 structure and associated structures to provide approximately 50 cfs or more over Lainhart Dam to the Northwest Fork of the Loxahatchee River, when the District determines that water supplies are available.

(d) Additionally, it is the intent of the District to continue the current operational protocols of the G-92 structure so as not to reduce the historical high, average and low flows as estimated over the 30 year period of rainfall record used as the basis for the MFL for the Northwest Fork of the Loxahatchee River.

(e) It is the District's intent to implement, along with other partners, projects to meet the practical restoration goal developed according to paragraph (b). Projects contained in the Comprehensive Everglades Restoration Plan, the LEC Plan and the NPBCCWMP will provide increased storage and conveyance within the basin with a goal of providing more water for restoration of the Northwest Fork of the Loxahatchee River.

(f) To protect water made available for the recovery and restoration of the Loxahatchee River through implementation of these associated projects, the District intends to adopt water reservations for the Loxahatchee River, pursuant to Section 373.223(4), F.S., on a project by project basis over the next 20 years. In addition, the SFWMD intends to adopt an initial reservation to protect existing water used for protection of fish and wildlife, consistent with the practical restoration goal identified for the Loxahatchee River, by 2004. Future reservations related to the Loxahatchee River will be consistent with the reservations being developed for restoration of the Everglades under CERP, and will reflect the needs of the natural system through a range of hydrologic conditions. These water reservations are intended to prevent the future allocation to consumptive uses the freshwater intended for restoration of the Loxahatchee River. The reservations will be implemented through the consumptive use permit program, operational protocols, water shortage rules, and other appropriate provisions in Chapter 373, F.S.

(g) As reservations are adopted to restore the Loxahatchee River beyond that to be achieved by the MFL, the District shall revise the minimum flow and level and associated prevention and recovery strategy, as appropriate, under Sections 373.042 and 373.0421, F.S., to be consistent with the reservation.



(8) Lake Istokpoga. The water levels in Lake Istokpoga are controlled by operation of water control structures (G-85 and, primarily, S-68) as guided by a regulation schedule adopted by the U.S. Army Corps of Engineers and implemented by the District. The existing regulation schedule, typical regional weather patterns, and present levels of inflows from area creeks make violation of the Lake's minimum level unlikely; no such events have occurred since implementation of the Lake regulation schedule. Analysis of the current regulation schedule and operational policies for the Lake indicate the proposed Lake Istokpoga minimum level will be met for the foreseeable future. Therefore, the prevention strategy for Lake Istokpoga consists of continuation of the current operational plan and regulation schedule. The District, in coordination with other appropriate agencies, should also plan and operate extreme Lake drawdowns for environmental purposes in a manner that, to the greatest extent possible, avoids a MFL violation. If significant changes to the Lake's water level management occurs due to new information, altered operational plans, or regulation schedule, a re-evaluation of the minimum level criteria will be conducted. This re-evaluation will occur as part of the next Lake Istokpoga MFL update which is scheduled to occur in 2010, or sooner, if significant changes to Lake management are proposed.

(9) Florida Bay. Under existing system conditions, violations of the MFL are not anticipated to occur. Therefore, a prevention strategy is contained in this rule. In addition to the prevention strategies identified in subsection 40E-8.421(1), F.A.C., the following actions will be taken:

(a) Modifications to operations for improved management of freshwater discharges to the headwaters of Taylor Slough and the southeast Everglades should consider the MFL, in coordination with:

1. The Modified Waters Deliveries to Everglades National Park project and the C-111 Canal project, and any associated operational and construction plans pursuant to these projects;

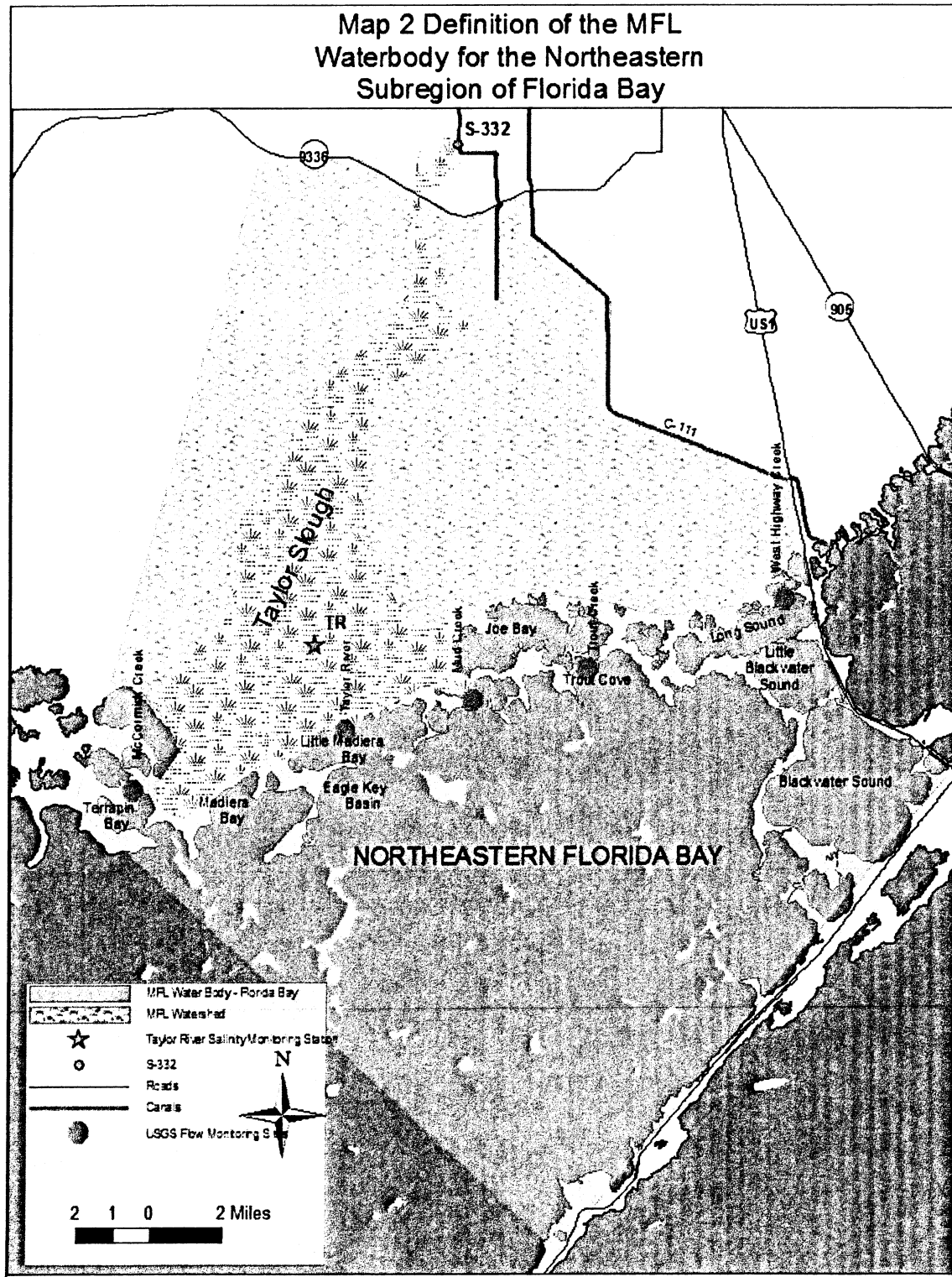
2. The C-111 Canal Spreader Acceler8 and CERP Projects;

3. The CERP Florida Bay and Florida Keys Feasibility Study.

(b) The SFWMD, in cooperation with other management agencies, will continue field monitoring and research to assess salinity, water level, and flow conditions and biological resource response in the region specified above.

(c) The update of the LEC Plan (anticipated in 2006) will contain a description of the elements, scheduling, and funding of the research and monitoring program and additional details of the prevention strategy for Florida Bay pursuant to Section 373.0421, F.S.

(d) These MFL criteria will be reviewed and may be revised no later than five years after adoption based on new information from the CERP Florida Bay and Florida Keys Feasibility Study or other scientific data that may become available. After the initial review, the MFL criteria will be reviewed at subsequent five-year intervals in conjunction with updates to the LEC Plan.



Specific Authority §§ 9, 10 P.L. 83-358, 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421, 373.175, 373.216, 373.219, 373.223, 373.246 FS. History—New 9-10-01, Amended 11-11-02, 4-1-03, 1-19-06, 12-12-06, 4-23-07.

40E-8.431 Consumptive Use Permits.

(1) Consumptive use permit applications that propose to withdraw water directly or indirectly from a MFL water body, that meet the conditions for permit issuance in Part II of Chapter 373, F.S., (including implementing rules in this chapter, Chapter 40E-2, F.A.C., the Water Use Basis of Review, and Chapter 40E-20, F.A.C., as applicable), and are consistent with the approved recovery and prevention strategies under Section 373.0421, F.S., will be permitted. Consumptive use permit applications will be reviewed based on the recovery and prevention strategy approved at the time of permit application review.

(2) An existing permit will not be subject to revocation or modification by the District, prior to permit expiration, based on its impact on a MFL water body, unless the District has determined in the regional water supply plan that the reasonable-beneficial use served by the existing permitted allocation can otherwise be met from new or alternative water sources available (in place and operational) concurrent with such revocation or modification.

(3) A permittee must comply with the requirements of Rule 40E-2.351, F.A.C., in order to obtain a permit transfer to a new permittee.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History—New 9-10-01.

40E-8.441 Water Shortage Plan Implementation.

(1) Water shortage restrictions will be imposed as required by District rules on the direct or indirect withdrawals from a MFL water body if a MFL exceedance occurs or is projected to occur during climatic conditions more severe than a 1 in 10 year drought, to the extent consumptive uses contribute to such exceedance. Under these circumstances, the District will equitably distribute available supplies to prevent serious harm to the water resources, pursuant to Sections 373.175 and 373.246, F.S., and the District's Water Shortage Plan, Chapter 40E-21, F.A.C. The Water Shortage Plan utilizes a phased cutback approach with the severity of use restrictions increasing commensurate with increased potential for serious harm to the water resources.

(2) Water shortage restrictions will not be used in place of a component in an approved recovery plan to provide hydrologic benefits that are ultimately to be provided by such recovery strategy.

(3) MFL criteria will not be utilized to trigger water shortage restrictions during climatic conditions less severe than a 1 in 10 year level of drought.

(4) Water shortage restrictions will be implemented considering the factors in Chapter 40E-21, F.A.C., and this rule. In declaring a water shortage to protect a MFL water body, the governing board shall give consideration to:

- (a) The level of drought;
- (b) Whether the MFL criteria will be or is being exceeded due to direct or indirect withdrawals;
- (c) The magnitude of the impact on the MFL water body, including water resource

functions addressed by the MFL, from such withdrawals;

(d) The magnitude of the regional hydrologic improvements projected to be derived from the proposed cutbacks;

(e) Water management actions significantly contributing to the MFL exceedance; and

(f) The practicality of using other methods, such as deliveries of water from the regional system, to reduce MFL exceedances.

(5) The establishment and implementation of MFLs shall not limit the District's ability to impose water shortage restrictions pursuant to Sections 373.175 and 373.246, F.S., and the District's Water Shortage Plan, Chapter 40E-21, F.A.C., when water levels in a MFL water body are above an established MFL, nor shall it limit the District's ability to allow for the discharge or withdrawal of water from a MFL water body, when water levels are below an established MFL.

(6) Phase III water shortage restrictions may be imposed, consistent with the factors herein, when a MFL criteria exceedance or violation is imminent. Phase III or greater water shortage restrictions shall be implemented allowing for a shared adversity between continuing consumptive use and water resource needs.

Specific Authority 373.044, 373.113 FS. Law Implemented 373.042, 373.0421, 373.175, 373.246 FS. History—New 9-10-01.

Appendix G

Lake Okeechobee Water Shortage Management Plan

Concurrent with the USACE developing a revised Lake Okeechobee Regulation Schedule (LORS), the SFWMD began the process of updating its current water shortage rules in Chapters 40E-21 and 40-E22, Florida Administrative Code (F.A.C.). The SFWMD water shortage rules provide guidance to when and to what severity low lake levels will result in restricted water deliveries to users in the Lake Okeechobee Service Area (LOSA). The inter-relationship between the Lake Okeechobee Regulation Schedule Study (LORSS) and the Water Shortage Management Plan is especially sensitive because the simulations of the preferred alternative LORS projects lower lake levels more often than the existing WSE schedule.

During the plan formulation and modeling process for the LORSS, the SFWMD proposed a Draft Lake Okeechobee Water Shortage Management Plan (LOWSM) in August 2006. The Draft LOWSM Plan was used by the USACE as a basis for the water supply cutback assumptions in the Alternatives model runs. The specifics of the modeling assumptions used to model potential impacts of the Draft LOWSM are provided in Appendix E.

Since the evaluation of the Alternative model runs, the SFWMD rule development process has produced a significant amount of public and stakeholder input on the newly proposed lake water supply cutback methodologies. This input includes significant concern for low lake levels, including increases in the potential for Lake Okeechobee minimum flow and level (MFL) exceedances which occur as a result of the proposed LORS changes. In particular, there was concern that Phase I and II cutbacks under the DRAFT LOWSM Plan (August 2006) would not be triggered until the lake's level fell below +11 feet NGVD. In recognition that the existing lake MFL is based in part on the amount of time the lake remains below +11 feet NGVD, requests were made to implement the phased cutbacks prior to reaching that level.

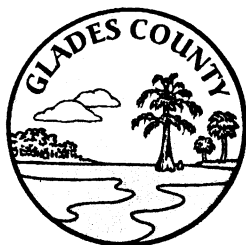
As a result, District staff has proposed to apply existing Rule 40E-22.332, F.A.C., which specifically authorizes the imposition of water supply cutbacks prior to the Lake falling below 11 feet NGVD, consistent with the Lake Okeechobee Minimum Flow and Level (MFL) in Rule 40E-8.221, F.A.C. This proposal replaces the 2006 Draft LOWSM. This existing Water Shortage rule was adopted at the same time as the Lake Okeechobee MFL rule. It identifies a zone, known as Zone A, when phased restrictions may be declared. A key part of this rule is that Phase I and II cutbacks may be declared before the occurrence of a minimum flow and level exceedance. Also, Phase III cutbacks may be considered when water levels are projected to drop below ± 10.5 feet NGVD before June 1st. This is also a

fundamental difference from the Draft LOWSM Plan proposal (August 2006). Applying existing Rule 40E-22.332, F.A.C. is considered consistent with the District's rules regarding resource protection in general, including harm, significant harm, and serious harm linkages.

A model run known as "TSP with Existing Water Shortage Triggers (TSP WST)" reflects the current rule structure, but changes the method for determining the reductions in demands. Under the "TSP WST" model run, cutbacks are implemented approximately 1.5 feet above the Phase I trigger line previously proposed under the DRAFT LOWSM Plan (August 2006). As a result, this model run represents the District's current water shortage rule for the water users and is used by the USACE in an attempt to bracket the potential impacts of the TSP to water users within the Lake Okeechobee Service Area. This simulation is sometimes identified as T3 or TSP with existing SSM in the DRAFT SEIS.

In summary, the proposed DRAFT LOWSM Plan (August 2006) was found to be inconsistent with District rules regarding Lake Okeechobee's MFL criteria. (See Chapters 40E-8, 40E-22, and 40E-21, Florida Administrative Code) The TSP WST is compatible with District rules and is an improved indication of the potential impacts of the proposed TSP during water shortages. During the current water shortage, the 1 in 10 year demand allocation is different than the WST. District staff conducted several simulations attempting to minimize the MFL exceedences by adjusting the water shortage management plan. These simulations provide sufficient evidence to demonstrate that regardless of which Lake Okeechobee water shortage management plan is used, no major improvements in the Lake Okeechobee MFL performance were achieved. The MFL exceedence problem is caused by the highly aggressive flood control management strategy proposed by the TSP.

COUNTIES/ CITIES



Glades County Board of County Commissioners

P.O. Box 1018 • 500 Avenue J • Moore Haven, Florida 33471
Phone: (863) 946-6000 or (877) 445-2337 • Fax: (863) 946-2860
Internet address <http://www.myGlades.com>

August 15, 2007

K.S. "Butch" Jones
District 1

Donna Storter Long
District 2

Paul Beck
District 3

Russell Echols
District 4

Robert L. Giesler
District 5

Wendell H. Taylor
County Manager

Richard W. Pringle
County Attorney

U. S. Army Corps of Engineers
ATTN: Yvonne Haberer
701 San Marco Blvd.
Jacksonville, Florida 32207

RE: Lake Okeechobee

Dear Ms. Haberer:

Glades County, located on Lake Okeechobee, has approximately 40% of the shoreline of the Lake. Lake health, water quality and water quantity are integral to various economies of our County.

We need your help and support in maintaining appropriate water levels in the Lake. Too high and too low levels work against the health of Glades County.

Approximately a 15-foot water level would be ideal for us. Higher levels cause a hazard for our population due to the possibility of a levee breach. Low levels remove access to the Lake by many communities in Glades County.

We want to be clear, levels higher than 15 feet are an accident ready to happen. Safety must remain paramount.

Lake levels below 12 feet land-lock fishermen, boaters and economic interests. The economy of Glades County and its citizens are hurt by low water levels. Should this occur, plans are needed to quickly dredge coastal canals and ditches to ensure access to the Lake is always available.

Sincerely,

A handwritten signature in black ink, appearing to read "Wendell H. Taylor", followed by a long horizontal flourish.

Wendell H. Taylor
Glades County Manager

WHT:mad

xc: Carol Ann Wehle – Executive Director, SFWMD
Benita Whalen - SFWMD
Missie Barletto – SFWMD
Glades County BOCC
File



BOARD OF COUNTY COMMISSIONERS

Bob Janes
District One

August 20, 2007

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County Manager

David M. Owen
County Attorney

Diana M. Parker
County Hearing Examiner

Yvonne Harberer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Ms. Harberer:

As you are aware, Lee County ("the County") has been very engaged in the progress of the Lake Okeechobee Regulation Schedule Study ("LORSS"). The County, containing the Caloosahatchee River and Estuary, is a recipient of Lake Okeechobee discharges and as such, the LORSS has a direct impact on the health of our ecosystem. Our strong tourist-based economy thrives on health of our River, beaches and Estuary. The County understands that given the current constraints of the system, tangible benefits to Lake Okeechobee and the coastal Estuaries, are difficult to achieve. While there is some potential improvement to the Caloosahatchee River and Estuary with this new Regulation Schedule, the LORSS it is still far from a holistic solution because that will require additional water storage projects and conveyance to the southern part of the Everglades.

We have monitored the progress of, and provided comments relative to, the previous versions of the LORSS documents. Please accept this correspondence, and include it as a part of the record, on the August 2007 tentatively selected plan ("TSP" or "new TSP") for the Revised Draft Supplemental Environmental Impact Statement ("SEIS") for the LORSS. Our key points regarding the new TSP are as follows:

- **Parity for downstream receiving waters and estuaries.** This TSP indicates there should be parity among the two estuaries in terms of no additional harm in high discharge events.
- **The 17.25' Constraint.** We appreciate the Corps' response to our concerns regarding the effect of the previous 17.25' constraint on the TSP alternatives. The decision to formulate new alternatives that incorporate the Herbert Hoover Dike ("HHD") issues as a performance measure, rather than a constraint, is one of many factors that may result in somewhat better, although, in our opinion, not sufficiently better, performance for the Caloosahatchee River and Estuary over the last TSP. Evaluation of this performance measure shows only 8 days (over a 36 year period of record) where the Lake is above 17.25'. While the County understands the public safety concerns regarding the HHD, we also note

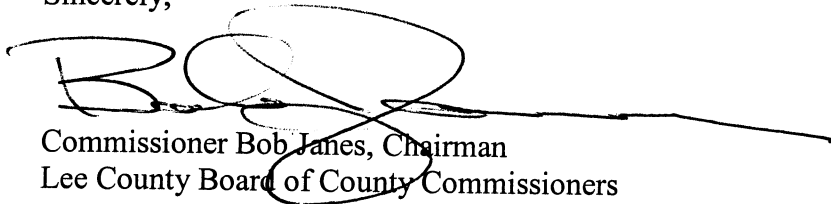
that much damage is done to our interests to avoid a very low-probability event. We recommend that the Corps should revisit this Regulation Schedule once the HHD rehabilitation is substantially complete.

- **Improvement with this TSP.** The SEIS asserts that there is an improvement by 6 months over the period of record, as compared to the previous TSP, in terms of high discharge events, but there is no improvement as compared to the current Water Supply and Environmental (“WSE”) schedule. There is slight reduction in the duration of those events. As expected from a lower Lake schedule, the corollary to that is that there is an increase in months where there are less flows to the Caloosahatchee River and Estuary. This TSP therefore does not represent a fundamental change in how the Lake is operated.
- **Pulse releases and base flows.** The SEIS asserts that there is an increase in Level 1 and 2 pulses (in terms of cubic feet per second discharge rates) and the reduction of the maximum Caloosahatchee discharges when the Lake stage is within the Intermediate operational band. The net effect of these changes appears to be to increase low volume discharges to avoid later high volume discharges.
- **Update Timelines.** The implementation of this LORSS has been delayed and it is likely that the various Comprehensive Everglades Restoration Plan (“CERP”) projects that will provide more water storage, thus taking pressure off of the Lake, will be delayed as well. The end result is that this “interim” schedule may be in place longer than 2010. The revised SEIS should accurately account for timeframes for the development of the “permanent” schedule.
- **Revision of water shortage triggers.** The County concurs in the use of the 2006 Lake Okeechobee Water Shortage Management Plan (“LOWSM”) and the other modeling updates, as the best available information to incorporate into the SEIS at the moment. But of concern, the July 2007 South Florida Water Management District Governing Board meeting included a significant discussion on the need for revisions to how the agency approaches drought management. It is clear from that discussion that the LOWSM and water shortage rules will be revisited and the effect on the TSP is unknown.
- **Clarify use of additional storage lands.** While the County understands that the goal is to first make releases to additional storage areas to minimize harmful flows, the specifics of the amount of land and the decision process to utilize those lands are unclear. The Corps has asserted that these are State actions, which we do not understand, as the storage proposals are directed at improving water management in the Lake, which is a Corps’ responsibility. At a minimum, the Corps should work with the

South Florida Water Management District ("SFWMD") to address this decision process and clearly articulate what the benefits will be before the Final SEIS.

It is the County's position that while there has been some improvement when reviewing this TSP and comparing it to the last one, there is little improvement from the current WSE schedule. This latest proposal does not solve the fundamental long-term problems of the Caloosahatchee Estuary, caused by releases from the Lake. With the other problems of CERP water storage project delays, the delay in this TSP and potential revisions to the SFWMD water shortage triggers, it is clear that the "mitigation strategies," such as water storage on additional SFWMD lands, become all the more important. It is critical that these mitigation strategies must be addressed now before this SEIS is finalized and the new TSP is implemented. Clarifying and finalizing the SFWMD water shortage triggers and policy is central to this effort of addressing these mitigation strategies. The County looks forward to continuing to work with the Corps as this new TSP is finalized.

Sincerely,



Commissioner Bob Janes, Chairman
Lee County Board of County Commissioners

Enc.: Comments

Cc: Ray Judah, Commissioner, Lee County
Tammy Hall, Commissioner, Lee County
Frank Mann, Commissioner, Lee County
A. Brian Bigelow, Commissioner, Lee County
Jim Lavender, Director, Lee County Public Works
David Owen, Esq., Lee County Attorneys Office
Roland Ottolini, Director, Lee County Natural Resources
Kurt Harclerode, Operations Manager, Lee County Natural Resources
John J. Fumero, Lewis, Longman & Walker, P.A.
Pete Milam, U.S. Army Corps of Engineers
Kim O'Dell, South Florida Water Management District

Comments regarding the *Revised Draft Supplemental Environmental Impact Statement: Lake Okeechobee Regulation Schedule*, (“SEIS”) June 2007.

General Comments:

- For the purposes of these comments, the terms tentatively selected plan (“TSP”), Alternative E and “T3” are the same alternative, which is the currently chosen plan.

Section 1.4, Page 7: We continue to support the agency goal (or objective) of achieving “optimal” lake levels and reduction of high regulatory releases to the estuaries.

Section 8, Pages 183-185: The current TSP appears to mark an improvement over the August 2006 TSP.

Timing and Scheduling

Section 1.5, Pages 8-9: This section outlines Phase 1, 2 and 3 efforts to modify the Lake’s regulation schedule. While the Corps is currently in the midst of Phase 2, it is clear that this effort has been delayed, largely due to drought management issues and reformulation of the August 2006 TSP, but work has been delayed in this effort. Phase 3 efforts expected to begin in late 2007 are likely delayed as well. This revised SEIS should reflect updated timelines to accurately account for this “interim” schedule as well as the development of the “permanent” schedule to be completed under Phase 3.

Section 1.7, Page 11: The County is concerned that until more storage (significant storage) is brought on line, the Corps will make only minor improvements in the Lake’s schedule.. Mindful of that concept, Phase efforts must be scheduled and based on real timelines that are affected by the authorization and funding of Comprehensive Everglades Restoration Plan (“CERP”) projects and Acceler8 projects. While Band 1 of the Master Implementation Sequencing Plan (“MISP”) may provide the best information on the projected schedules of these projects, the SEIS should reflect the reality that a permanent schedule by 2010 is not realistic. *See also*, “Proposed Operational Guidance,” Page A-7.

Revisions to Assumptions

Section 1.6, Page 9: This section describes the array of alternatives in the previous TSP. The development of those alternatives, with constraints due to Herbert Hoover Dike (“HHD”) integrity issues, is described. We appreciate the Corps’ efforts to respond to west coast estuary concerns and the decision to formulate new alternatives that incorporate the HHD issues as a performance measure rather than a factor that removes alternatives from further consideration. *See also*, discussion in Section 2.2, Page 16. But, as set forth herein, we believe there are still many other factors that need to be considered if the SEIS is to adequately address the impacts of Lake releases on the Caloosahatchee River and Estuary.

Section 2.2, Page 16: The County concurs in the use of the 2006 Lake Okeechobee Water Shortage Management Plan (“LOWSM”) and the other modeling updates, as the best available information to incorporate into the SEIS at the moment. But of concern, the July 2007 South Florida Water Management District Governing Board meeting included a significant discussion on the need for revisions to how the agency approaches drought management. It is clear from that discussion that the LOWSM and water shortage rules will be revisited. The timing of these changes, and the scheduling of modeling those effects in conjunction with this TSP, are unclear from the SEIS. Section 2.3 also acknowledges these potential rule revisions. The Corps states that “[b]ased on guidance from SFWMD, the 2006 draft LOWSM plan was not anticipated to undergo significant change prior to the approval by the SFWMD Governing Board later in 2007.” The fact is, this expectation may no longer be correct, and the effect on the current TSP will be unknown. *See also*, “Lake Okeechobee Management Bands, Water Shortage Management Band,” Page A-8-9.

Section 2.3, Page 17: The 2006 alternatives were based on a 1.0’ lowering of the Supply Side Management line (“SSM”), while the 2006 LOWSM plan utilizes a lowering of the “trigger line” by 0.8’. There are significant differences in the performance of the alternatives due to the elevation of this trigger line. While the 2006 LOWSM line is probably a more accurate depiction of where the ultimate trigger line may end up, again, there is still some level of uncertainty surrounding where this line will be and what the effect may be. The trigger line represents a significant element of the regulation schedule. The Corps and SFWMD should use every effort to finalize the LOWSM plan, model its effects in the context of the TSP, and incorporate those results into the Final SEIS.

Section 2.5, Page 21: This section should be updated based upon the fact that the temporary forward pumps have been constructed and the SFWMD is no longer “proposing” these structures. The section should also describe the status of the permanent forward pumps and what changes, benefits, impacts or differences may occur due to their use in the context of the TSP.

Section 2.6.6, Page 54: This section describes the changes that have occurred to the TSP. One of the key factors of the new TSP is the increase in Level 1 and 2 pulses (in terms of cubic feet per second discharge rates) and the reduction of the maximum Caloosahatchee discharges when the Lake stage is within the Intermediate operational band. The net effect of these changes is to increase low volume discharges to avoid later high volume discharges. The reduction in maximum Caloosahatchee discharges is important to the Caloosahatchee Estuary, and is a necessary element of this TSP. *See also*, Section 3.1.

Section 3.3, Page 77: In the “Operational Band” section a “base flow release to the Caloosahatchee Estuary” is described as a release from Lake Okeechobee at S-77 to achieve a 450 cfs flow at S-79.” This operation considers base flow from the basin and allows Lake Okeechobee to supplement the increment between the basin flow and the 450 cfs. This operation, in conjunction with the increased lower volume pulse releases,

would appear to directly benefit the estuaries. Further, this TSP recognizes parity among the two estuaries by allowing for flexibility to divide these releases between the two estuaries (650 cfs) as needed to minimize impacts or provide additional benefits.

Section 3.4, Page 80: The section on “Make-Up Releases” needs to be expanded to include environmental considerations before the release is made. The section describes the operation as allowing for releases to be “made up” for water that could not be moved out of the Lake due to high water elevations in the water conservation areas (“WCAs”), stormwater treatment area (“STA”) capacity limitations and conveyance limitations in the Everglades Agricultural Area (“EAA”). The targeted releases limited due to these constraints can later be “made up” from Lake Okeechobee “as soon as possible” and “may occur when Parts C and D do not allow releases or prescribe lower volume releases.” While these releases are not to exceed 2,800 cfs at the S-79, when the Lake is below the Intermediate Sub-Band, the seasonality and estuary conditions are equally important to consider before making these releases. The County believes that the limitation to 2,800 cfs, when the Lake is below the Intermediate Sub-Band, should be expanded to specifically include consideration of the season and estuary conditions before “Make-Up Releases” are made. *See also*, Page A-12. We also are concerned that these constraints represent a greater level of concern by the Corps for the WCAs than for the Caloosahatchee Estuary.

Section 3.6, Page 81: Many stakeholders were concerned, in relation to the last TSP, that the most recent 2001-2005 weather conditions had not been considered. Section 3.6 describes the Corps’ efforts to include some level of analysis (Lake Okeechobee Operations Screening Model “LOOPS”), in the development of this TSP, to include those years due to the unusual hurricane season and drought events. *See also*, Section 4.2. However, this analysis should be more robust.

This modeling is also addressed in Appendix E, Page E-46-47 and shows the number of months with average discharge to the Caloosahatchee greater than 2,800 cfs is reduced from 25 to 22 months, but there is an increase by 2 months of flows greater than 4,500 cfs. Please explain whether or not this increase in high discharge events is likely influenced by the unusual hurricane activity in those years or not.

The Section also describes “additional operational flexibility” used to address circumstances not evaluated as part of this SEIS. This “additional operational flexibility” presumably replaces the previous “Non-Typical Operations” (“NTO”) concept in the previous SEIS. The County understands the need for additional operational flexibility to address unforeseen conditions, and this is important to allocate burdens and benefits to the natural system equitably. The Section concludes with a discussion on public notification of these operations. The County’s primary comment is that all interested parties should be involved in implementing these procedures before they are “noticed” of the decision. Experience has shown with the previous TSP that public involvement in these types of decisions can result in a better effect on the environment overall. *See also*, Page A-13. In addition, we believe that the Corps should prepare additional NEPA documentation at the time it makes the decisions, to ensure intelligent decision making.

Section 4.3.2, Page 87: It is the County's understanding that hydrological model output assumes maximum practicable releases from Lake Okeechobee within each decision tree band, with consideration of downstream operational constraints and that this maximum releases are not always implemented. Essentially, this paints a "worst case scenario." This section should be expanded to describe how conservative the performance evaluations will be due to this effect.

Section 4.4, Page 94: The SEIS acknowledges that modification of water shortage rules is important as the Preferred Alternative model run projects lower lake levels more often than the existing WSE schedule. This results in more Lake Okeechobee Minimum Flow and Level ("MFL") violations and the need for water shortage rule revisions that address this issue. This makes our previous comments regarding the July SFWMD Governing Board discussion, in the context of water shortage rule revisions and the use of 2006 LOWSM, all the more important.

Additionally, analyzing the current TSP in the context of current water shortage triggers ("WST") against 2006 LOWSM for performance is helpful to understand the importance that these triggers have on environmental and water supply performance. Any additional changes in the water shortage rules or triggers (or revisions to 2006 LOWSM) must be considered in the Final SEIS. *See also*, Section 5.8.

Additional Storage Areas

Section 3.2, Page 75: This section states that "[w]hen the Operational Guidance and/or basin conditions between Lake Okeechobee and the estuaries result in flows deemed undesirable by SFWMD to the estuaries, the SFWMD may seek to storage Lake Okeechobee water on available SFWMD designated lands." The County also understands that this Operational Guidance is not incorporated into any alternative analysis and that performance of the TSP can likely be enhanced by this operation. While the County understands that the goal is to first make releases to alternative storage areas to minimize harmful flows, the specifics of the amount of land and the decision process to utilize those lands are unclear. We do not believe that these should be just state actions, because they are designed to address the problems caused by the Corps' management of the Lake. The Corps should work with the SFWMD to address this decision process and clearly articulate what the benefits will be before the Final SEIS.

Section 3.3, Page 76: In the description on the "Water Shortage Management Band," the document states that draft Water Shortage Management Band elevations may change upon completion of SFWMD's rulemaking process in 2007." As stated above, the rulemaking process may be more expansive than originally contemplated, and the SFWMD and Corps should work to ensure that all analysis is complete before the Final SEIS.

Section 4.5, Pages 95-99: This Section describes the use of SFWMD lands for additional water storage as a precursor to higher volume discharges, thus minimizing impacts to

downstream receiving waters. The County understands that this is one of the “additional considerations” that exists which can further improve performance of the TSP, this is a non-Federal action, and that the modeling of the alternatives does not consider these lands or operations. It is important that these operations are more clearly articulated in this SEIS process so that stakeholders can formulate a well-informed opinion as to the importance of this additional storage to success of this TSP. From a modeling perspective, many of the assumptions make sense such as the lands are actually available with all infrastructure, local basin runoff considerations, and the storage is utilized before releases are made. But the SEIS still fails to sufficiently analyze key issues, for instance:

- What lands (and how much) have been identified/committed for this storage?
- How much infrastructure and/or expense is necessary to make these lands available for storage?
- How soon can the storage be brought on line as modeled?
- Is the SFWMD planning for 150,000 acre-feet of storage, 450,000 acre-feet of storage, or something in between?

It is the County’s belief that based on the preliminary analysis contained in the SEIS and previously circulated by the SFWMD, significant benefits may occur for the Caloosahatchee once this storage comes on line. These include: a reduction of flows greater than 4,500 cfs by four months to eight months (for the 150,000 acre-feet and 450,000 acre-feet of storage scenarios respectively). This analysis also shows a reduction of flows greater than 2,800 cfs by six to seven months (for the 150,000 acre-feet and 450,000 acre-feet of storage scenarios respectively). These benefits are not without trade-offs though, and utilizing that storage during intermediate high flow events makes it unavailable later to capture extreme high flow events. Further analysis on the optimal operations (and the timing or use of that storage) for these additional water storage area is necessary to determine when that storage should be utilized and what the water quality impacts may be; these are simply to be “defined in the future.”

Water Quality

Section 5.9, Pages 131-133: This Section primarily focuses on the impacts from nutrient loading to the Caloosahatchee Estuary and the allocation of that loading between the Lake Okeechobee, River and Estuary basins. The discussion of nutrient loads does not analyze the effects of those loads on ecological factors or evaluate the different alternatives’ effects on nutrient loading. This discussion ignores the water quality implications of delivering extreme freshwater flows, thus creating an imbalance in the salinity envelope for the Estuary. While the County recognizes that some nutrient loading to the Caloosahatchee comes from other sources, the impacts to the Estuary from Lake Okeechobee discharges are significant, especially in years with high Lake discharges. In fact, these Lake discharges are the largest contributor of nutrients to the Estuary).

The revised draft SEIS still does not adequately analyze the water quality effects of the different alternatives. The only measure of water quality considered by the Corps is

salinity, which is not directly evaluated but is approximated by flow rates. In addition, rather than analyzing the effects of each alternative on the incidence of harmful algal blooms, the SEIS dismisses the connection between high nutrient content in Lake Okeechobee discharges and the incidence of harmful algal blooms, including blue-green algae, red tide, and red drift algae. Nor does the revised SEIS evaluate the potential impacts of these discharges on Lee County's drinking water supply. The SEIS also does not contain any real analysis of the effect poor water quality has on endangered and threatened species in the Caloosahatchee Estuary. The County continues to be very concerned about impacts to these species and other biota.

Section 6.21, Pages 174-175: This Section should be expanded to include a discussion of the projects and initiatives the SFWMD will be undertaking after the passage of the Northern Everglades and Estuary Protection Act ("NEEPA"). This Section should also include more detail on the potential for changes to 2006 LOWSM, the SFWMD's Drought Management Policy, any Lake Okeechobee MFL changes or any other rule changes that may effect WSTs or drought management.

Section 6.2.2, Pages 137-138: Table 6-2 outlines the mean monthly flows to the Caloosatchee as a result of the various alternatives and No-Action scenario. In extremely high discharge events, the Caloosahatchee performance is no more or less discharge events, but there is an improvement by six months over the period of record as compared to the previous TSP. As expected from a lower Lake schedule, the corollary to that is that there is an increase in months where there are less flows to the Caloosahatchee. Finally, the TSP appears to show less time the Caloosahatchee is receiving those high discharge flows (duration) as compared to the previous TSP, at least in the period of record. This is demonstrated in Table 6-3 in that there is an increase in shorter term (6-7 week) events, but a decrease in longer term (8-9, 10-12 & 13-16 week) events. This increase is likely due to the increase in pulse events and base flows. This assessment appears to be consistent for the timing of those flows in the March-June timeframe (Table 6-6).

Additionally, when comparing the high volume discharges between the Caloosahatchee and the St. Lucie, there appears to be more equity between the estuaries with this TSP as compared to the previous TSP. The estuaries nevertheless continue to receive the brunt of environmental impacts from the Lake.

Appendix E, Page E-36: During the POR, the cumulative volume of regulatory releases from Lake Okeechobee to the Caloosahatchee Estuary at S-77 increases from 13.63 million acre-feet (No Action) to 14.96 million acre-feet for the TSP. The cumulative volume of releases at S-79 (including C-43 Basin Runoff) increases from 37.33 million acre-feet (No Action) to 38.15 million acre-feet for the TSP. The total contribution of Lake Okeechobee regulatory releases increases by 2% from the TSP. The rationale for these trends should be explained. For instance, is the increase in cumulative flow due to increasing the pulses and base flows or is it due to some other factor? What are the trade-offs associated with these trends?

Water Supply Discussion

Section 6.12.1, Page 164: Table 6-13 summarizes the water supply performance of the TSP in relation to the current WST and the 2006 LOWSM. Table 6-13 also clearly shows that the impact of the TSP is lessened with the 2006 LOWSM triggers over the existing WSTs. As previously stated, an important issue to be addressed is the efficacy of using the 2006 LOWSM assumptions if they are subject to change before the TSP is implemented. *See also*, Page E-17.

Finally, we incorporate by reference Lee County's previous comments regarding management of water levels in the Lake, and the comments of other entities in Lee County, such as the City of Sanibel and non-profit environmental organizations.



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August 20, 2007

Col. Paul L. Grosskruger
Jacksonville District Commander
ACOE Jacksonville Office
701 San Marco Blvd.
Jacksonville, FL 32207-8175

**Re: Revised Draft Supplemental Environmental Impact Statement
for Changes to the Lake Okeechobee Regulation Schedule**

Dear Colonel Grosskruger:

I am writing on behalf of Palm Beach County, Florida (County) to provide comments on the proposed revisions to the regulation levels for Lake Okeechobee and the related Revised Draft Supplemental Environmental Impact Statement (RDSEIS).

The reductions in Lake Okeechobee levels proposed in the RDSEIS clearly impact the provision of municipal water supplies throughout Palm Beach County by reducing the amount of storage available for back-up supply. Given the structural concerns with the Herbert Hoover Dike, however, the County does not object to the ultimate goal of reducing stress on the Dike until the Dike can be rehabilitated. What we are objecting to is the action by the US Army Corps of Engineers (ACOE) to permanently adopt a new regulation schedule without recognizing or proposing mitigation for the serious impacts that the lake level reduction will have on the drinking water supplies for South Bay, Belle Glade and Pahokee (Glades Cities). The County believes that permanently adopting the proposed changes to the regulation schedule will be very damaging to the economies and health of the Glades Cities and their residents until and even after another permanent alternative water supply source can be made available.

The Glades Cities are situated on the shore of Lake Okeechobee,

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and currently rely on the lake as their only source of drinking water. Over the years the Glades Cities have invested millions of dollars in water treatment facilities, which are now proving to be inadequate to treat the water in the lake. An unintended result of the recent reduction of the lake levels has been a significant degradation of the drinking water available to the Glades Cities. Lower lake levels have resulted in increased turbidity near the drinking water intake structures of each of the Glades Cities. This increased turbidity has required additional disinfection that has dramatically increased the cost of providing potable water to the residents of the Glades Cities. Moreover, and more importantly, the increased turbidity and the necessary increased disinfection have resulted in elevated levels of disinfection byproducts. Disinfection byproducts, such as trihalomethanes, are known carcinogens that can pose a serious threat to public health. The elevated levels of carcinogenic disinfection byproducts are the direct result of the lower water levels in Lake Okeechobee. This water quality degradation makes it more difficult, if not impossible, to meet all federal and state primary and secondary drinking water standards, and greatly increases the treatment cost to the residents.

Palm Beach County is building a reverse osmosis water treatment plant, which utilizes a brackish groundwater source to serve the Glades Cities. This plant, when completed on or about June 2008, will solve the drinking water quality problem for the citizens of the Glades Cities. Even with over \$30 million in local and state funding assistance, the remaining \$26 to \$27 million cost of the new plant simply cannot be afforded by the Glades Cities residents. These residents already pay some of the highest water rates in the state due to their investment over the years of millions of dollars for treatment works needed to treat the difficult and variable water quality in the lake. Even when the new plant is online, these citizens will still owe tens of millions of dollars of debt on these existing water treatment plants. Even though these plants cannot properly treat the lake water resulting from a permanently reduced water level in the lake, they still must be paid for. The cost of these stranded investments, the ACOE and the federal government leave completely neglected.

Palm Beach County recommends that the ACOE re-examine the mitigation required to permanently change the regulation schedules for Lake Okeechobee and lower the lake levels. As currently proposed, this change would pose a serious public health threat to the residents of the Glades Cities or force already economically disadvantaged communities to suffer further economic harm due to the ACOE's proposed action. The Glades Cities are predominantly minority, economically disadvantaged communities that are being saddled with a disproportionate cost of lowering of the lake levels, both in the form of the economic cost of increased water treatment and in the cost to public health posed by the elevated levels of disinfection byproducts in their drinking water. The RDSEIS needs to evaluate these impacts to the Glades Cities and the disproportionate burden they would be asked to bear.

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If the Herbert Hoover Dike (Dike) were to rupture or collapse, it would be considered a national disaster and tremendous resources would be made available to the families and communities impacted by the disaster. The actions taken by the ACOE to lower water levels and purportedly prevent the rupture of the Dike have greatly impacted the Glades Cities' water supplies. Although the impact may be less dramatic than a rupture of the Dike, it is still significant. To date less than \$1 million in federal assistance has been pledged and not one dollar in federal assistance has been received to help these communities cope. The degraded quality of the water the Glades Cities are now forced to drink is shameful. If the ACOE moves forward with its proposal to permanently lower the lake levels, the ACOE and other federal agencies should make resources available to the Glades Cities to mitigate the aforementioned harm caused by this decision.

The following additional issues addressed below further detail the County's opposition to the ACOE's proposal to permanently lower the regulatory levels for Lake Okeechobee without providing increased federal assistance for mitigation:

A. Municipal water supply is a congressionally authorized purpose of the Central and South Florida Flood Control Project that cannot be neglected by ACOE.

In 1948, the U.S. Army Corps of Engineers submitted to Congress a report on the widespread flooding and other water management problems facing South Florida. The Report included a major proposal that was published in House Document No. 643, Eightieth Congress (1948). Later that year the U.S. Congress passed Public Law 80-858 (the "1948 Act"), authorizing the construction of the Central and South Florida Flood Control Project ("C&SF Project") by the U.S. Army Corps of Engineers.

The River and Harbor Act of 1954, Public Law 83-780 (the "1954 Act") modifies and expands the C&SF Project. Section 203 of the 1954 Act adopts in its entirety the recommendations of the Chief of Engineers, which were included in House Document 643, Eightieth Congress. Throughout House Document 643 there are references to the impacts of the C&SF Project on water supply, and the importance of municipal water supplies.

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Development of the comprehensive plan of improvement would afford a high degree of flood protection throughout this area; it would provide for removal of excess waters in wet seasons, and for their control, storage, and use in maintaining water levels during dry periods. Adequate control of water levels is essential for agricultural use of lands in this area and for maintenance of municipal water supplies.

House Document 643, Eightieth Congress, p. 2 (emphasis added).

The plan as a whole and each of its major features are multiple-purpose in concept and design.

Id. at 3.

Scope. -- (a) The flood problems of Central and Southern Florida are closely interrelated with the development of water and land resources of the entire area; **this report therefore considers all related problems of water control and use.** Such a comprehensive approach was authorized by the Chief of Engineers as a result of numerous conferences held in 1946 and was confirmed by letter of November 14, 1947.

Id. at 14 (emphasis added).

Along the east coast, urban interests desire protection from floodwaters of the Everglades and improvement of local protection works and drainage outlets to the sea. Agricultural interests and the communities in this area are much concerned with the progressive salt-water intrusion which has occurred during dry periods, and desire that measures to relieve this situation be included in any plan of improvement. **In addition, the east-coast cities and towns are looking toward Lake Okeechobee and the Everglades as a source of future water supply, in expectation of large population increases.**

* * *

In summary, local interests are discouraged by the futility of repairing or restoring local levees and canals, which are inadequate in the face of major floods. They find themselves unable to cope with the problem of **adequate water conservation for use in dry periods.**

Id. at 32 (emphasis added).

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Water Control.--(a) Water control and flood control are so closely interrelated in Central and Southern Florida that *it is usually impracticable to state that a problem is one of water control or flood control.* Furthermore, engineering structures in many cases must serve both purposes to be effective. Water control coordinates the control of ground-water levels and conservation of water for use in dry periods. Because of this inter-relation, both problems are involved in practically all the solutions discussed briefly in the foregoing paragraph.

Id. at 34 (emphasis added).

In 1958 Congress passed the River and Harbor Act of 1958, Public Law 85-500 (the "1958 Act"). Sec. 203 of the 1958 Act adopts the recommendations of the Chief of Engineers, which were included in House Document 186, Eighty-Fifth Congress (1858). House Document 186 recognizes that the C&SF Project will provide substantial benefits for public water supplies, industrial water supplies, and agricultural water supplies. Moreover, House Document 186 specifically points out that any benefits to domestic and industrial water supply would be a result of the approved purposes of the C&SF Project.

94. The Florida Project will improve the water supply for domestic, industrial and agricultural use throughout the project area. This feature is pointed out in the original project document. Water supply for domestic and industrial use has in the past been a non-federal responsibility resting largely on lower government levels such as municipalities.

95. The water supply value of the project was not evaluated in monetary terms in House Document No. 643 on which authorization was based. At that time, the effect of the project on domestic and industrial supply did not arise from providing direct withdrawal of water for those purposes. The water supply values resulted incidentally from maintenance of ground water tables, recharge of ground waters, and abatement of salt water intrusion accomplished by facilities provided under the project for other purposes. Such area-wide effects and resulting benefits cannot be assigned with certainty to a specific beneficiary such as a city, town, or industry. . . .

House Document 186, Eighty-fifth Congress, p. 32 (emphasis added).

The CS&F Project is properly designated by Congress as a project for flood protection and water control. Lake Okeechobee, with its levees, control works and outlets is in

effect a multiple purpose reservoir for water storage and conservation. It is, therefore, not possible to classify this project in a single category, and the C&SF Project must be managed as a multi-purpose project with no single purpose being advanced to the detriment of the other purposes.

Clearly the impact of the ACOE decision to lower lake levels on the Glades Cities requires analysis as part of the draft RDSEIS. From our analysis of the RDSEIS, this does not appear to have been considered or evaluated by the ACOE. RDSEIS Sections 4.3.4 and 6.12 regarding water supply fail to recognize that Lake Okeechobee is used as a direct source for municipal water supplies.

- B. The ACOE should consider the principals of "Environmental Justice" so as to not neglect the needs of the predominantly minority, economically disadvantaged cities on the shores of Lake Okeechobee that rely on Lake Okeechobee as their only source of drinking water.**

Executive Order 12898 on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations was issued by President Bill Clinton on February 11, 1994. In the memorandum accompanying the Order, President Clinton states that the purpose of the order is to focus on the "environmental and human health conditions in minority communities and low-income communities with the goal of achieving environmental justice" as well as to promote "nondiscrimination in Federal programs substantially affecting human health and the environment..."

The memorandum also discusses provisions of existing law that ensure that all communities and persons across the United States live in a safe and healthful environment. In the memorandum provides:

each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. section 4321 et seq."

Executive Order 12898 (emphasis added).

NEPA's fundamental policy is to "encourage productive and enjoyable harmony between man and his environment." 42 U.S.C. §4321. According to the Council on Environmental Quality, in order to meet NEPA's goal to assure all Americans live in safe, healthy, and productive surroundings, NEPA requires that all agencies of the Federal government include an Environmental Impact Statement in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. Council on Environmental Quality, *Environmental Justice: Guidance Under the National Environmental Policy Act* (1997) at 7. Federal Agencies are required to consider environmental justice issues at any step of the NEPA process. *Id.* at 8. Environmental justice considerations include "impacts on the natural or physical environment and interrelated social, cultural and economic effects." The Council on Environmental Quality implementing regulations defines "effects" or "impacts" to include "ecological...aesthetic, historic, cultural, economic, social or health, whether direct, indirect or cumulative." 40 C.F.R. §1508.8.

The Council on Environmental Quality set forth six guiding principles that agencies should consider including: "composition of the affected area to determine whether minority populations, low-income populations or Indian tribes are present in the area affected by the proposed action, and if so whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes" and the "interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action." Council on Environmental Quality, *Environmental Justice: Guidance Under the National Environmental Policy Act* (1997) at 8-9.

According to Section 6.26.23, ACOE has concluded that the proposed action will not result in adverse health or environmental effects or be disproportionate towards any minority, and that an Environmental Justice analysis is not required. For example, Section 6.7 addressing socio-economic impacts does not recognize that the Glades Cities are minority communities that will be disproportionately impacted by the change in the regulation schedule. For the reasons explained above, such an analysis is required by Executive Order 12898.

- C. The ACOE needs to evaluate impacts on the Glades Cities' water supplies as required by *Economic and Environmental Principles And Guidelines For Water And Related Land Resources Implementation Studies*, ACOE March 10, 1983.

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The ACOE guidance document *Economic And Environmental Principles And Guidelines For Water And Related Land Resources Implementation Studies* contains a section that specifically applies to decisions of the ACOE that impact municipal water supply sources: Chapter II, Section II —NED Benefit Evaluation Procedures—Municipal and Industrial (M&I) Water Supply. Based on our review of the documents available, it does not appear that ACOE has followed this guidance as applied to the Glades Cities.

Extensive evaluation is required of local municipal water supplies impacted by a federal action both with and without the proposed federal action. See Id. at §2.2.4. While the RDSEIS includes an analysis of impacts to municipal water supply in the Lower East Coast Region, no such analysis has been completed regarding the Glades Cities in the RDSEIS.

Thank you for the opportunity to submit these comments.

Sincerely,



Bevin A. Beaudet, PE
Director of Utilities

CC: Commissioner Jess Santamaria, District 6
Robert Weisman, County Administrator
Shannon LaRocque-Baas, Deputy County Administrator
Carol Wehle, Executive Director, SFWMD
Ken Todd, County Water Resources Manager

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February 13, 2007

Mr. Pete Milam, Project Manager
U.S. Army Corps of Engineers
Jacksonville District
701 San Marco Blvd.
Jacksonville, FL 32207-8175

Subject: *Lake Okeechobee Regulation Schedule Revisions*

Dear Mr. Milam,

Thank you for your presentation last week, February 8th, before the South Florida Water Management District's Water Resources Advisory Committee (WRAC). By all accounts from my designated alternate that attended the meeting in my place, Mr. Thomas Miller, your presentation regarding revisions to Lake Okeechobee's regulation schedule was informative and generated considerable discussion, particularly as that discussion related to water supply for agriculture and the lower east coast utilities.

At the WRAC meeting, Palm Beach County Water Utilities expressed concern for the apparent omission of details relating to the affects on water supply from planned schedule revisions. The purpose of this letter is to request more detail in that regard.

You will recall that when the "Yellow-Book" was published in July of 2000, Zone "E" was planned to "conserve" water for later beneficial uses, among which included water supply for municipal use as well as for agriculture. At that time, Zone "E" ranged from a low stage in the May-June time frame of 13.5 ft. NGVD to a high in the fall of 15.5 ft. NGVD. Subsequent to this operational guidance document, the District proposed revisions to Lake operational guidance (LORSS) in July 2006;

"...to address continued high lake levels, estuary ecosystem conditions, and lake ecology conditions that occurred during the 2003 to 2005 time period."

Ostensibly, the proposed revisions were anticipated to address high Lake stages from historically significant hurricane seasons (2003-2005), concern for the integrity of the Herbert Hoover Dike, and to address collateral adverse ecosystem impacts associated with both high in-lake stages and frequent, large discharges that continued to sensitive coastal estuaries.

The Lake Okeechobee Regulation Schedule Study Supplemental Environmental Impact Statement (LORSS SEIS) Tentatively Selected Plan (TSP) was intended to have a "...more equal distribution of shared adversity..." than former plans, but specifically included a "Supply Side Management Band", meant to provide water supply needs for service areas defined by the District. The "Supply Side Management Band" varied seasonally between 9.5 and 12.0 ft. NGVD.

Now again, the regulation schedule for Lake Okeechobee is being considered in the context of a revised TSP and although it appears that the lowest band, the Water Shortage Management Band, approximates the former Zone "E" band, there appear to be slight differences that vary seasonally between 9.75 ft. and 12.25 ft. NGVD. During the ensuing discussions, the WRAC was informed that the supply side could be expected to be down 1 ft. Additionally, operational guidance that was presented included protocols for releases to coastal estuaries and to the water conservation areas, but not for regional groundwater supplies and considering releases to the water conservation areas, no releases would be allowable under certain conditions within the Base Flow Operational Band; presumably below 12.5 ft. NGVD.

Palm Beach County Water Utilities is concerned by the absence of water supply protocols in the Corps of Engineers operational guidance. While the message may ultimately be one that the Corps of Engineers is only providing a set volume at set Lake stages and it is up to the District to allocate that supply, it would benefit all Lake users to understand that the available supply is in fact, continuing the goal of more equal distribution of shared adversity, as the District has equitably intended.

Therefore, to eliminate any future misunderstandings, it would be helpful if the Corps of Engineers would prepare a slide that would predict the number of times stages in Lake Okeechobee entered Zone "E" or a "water shortage management band" in the past, based on the 36-year period of record, and compare that with the new operational strategy using the preferred TSP. The question this utility would like addressed is whether this new strategy would be better than, equal to, or worse than the "Yellow Book" strategy, or even the LORSS SEIS strategy. In addition, we would also like to know what effect, if any, the addition of forward pumps would have in ameliorating those differences.

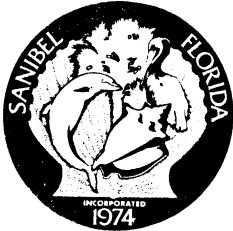
Thank you for the opportunity to provide input. Please feel free to give me or Thomas Miller a call at 561-493-6007. We look forward to review on additional information to address this utility's request.

Respectfully,



Bevin A. Beaudet, PE., Director
Palm Beach County Water Utilities

C: Robert Weisman, P.E., County Administrator
Jon Van Arnam, PBC Assistant County Administrator
Chip Merriam, SFWMD Deputy Executive Director
Dennis Duke, US Army Corps of Engineers
Ray Scott, Florida Dept of Agriculture and Consumer Sciences
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August 20, 2007

Via E-Mail & Fed Ex

U.S. Army Corps of Engineers
ATTN: Yvonne Haberer
701 San Marco Blvd.
Jacksonville, FL 32207

Dear Ms. Haberer:

The City of Sanibel respectfully submits the following comments on the Revised Draft Supplemental Environmental Impact Statement ("RDSEIS") for the 2006 Lake Okeechobee Regulation Schedule ("LORS"), prepared in coordination with the City's Special Counsel, Beveridge & Diamond, P.C.

I. ASSESSMENT OF THE NEW TENTATIVELY SELECTED PLAN

The City of Sanibel submitted extensive comments proposing improvements to the Tentatively Selected Plan ("TSP") assessed in the Draft Supplemental Environmental Impact Statement for the Lake Okeechobee Regulation Schedule Study in August of 2006 ("2006 DSEIS"). The TSP (labeled 1bS2-m) published at that time failed to protect the Caloosahatchee Estuary and waters in and around Sanibel from harmful releases of nutrient-laden freshwater from Lake Okeechobee. The City was not alone in commenting that the TSP would jeopardize the health of the Caloosahatchee Estuary. As the U.S. Army Corps of Engineers ("the Corps") has since acknowledged, "the majority of public comments [on the 2006 DSEIS] centered on the need for improving [the TSP] as it related to the Caloosahatchee Estuary performance." RDSEIS at ii. In response to the large volume of public comments, the Corps withdrew the 2006 DSEIS and modeled additional

alternatives “in an attempt to improve the Caloosahatchee Estuary performance.” *Id.* The City welcomed this decision as evidence of the Corps’ recognition that a Lake schedule that performed so poorly for the Caloosahatchee Estuary could not meet the project’s stated purpose and need.

The City has raised a number of common sense proposals for ensuring a Lake schedule that more equitably shares adversity among all regions affected by the releases. The Corps has incorporated some of these suggestions into the new TSP¹, but also retained many of the withdrawn schedule’s more problematic aspects. While the new TSP therefore improves the Lake schedule proposed in 2006, the Caloosahatchee Estuary would nonetheless continue to receive an inordinate share of the burdens from Lake Okeechobee discharges. The full extent of risks posed by the new TSP (labeled Alternative T3) to the Caloosahatchee Estuary remains largely undocumented in the RDSEIS, which unfortunately retains many of the procedural deficiencies that undermined the 2006 DSEIS. As a crucial preliminary matter in these comments, the City hereby offers its assessment of the TSP. We recognize improvements to the Lake schedule that have been made, but also identify others that should be made before the Corps issues its decision document to better protect the Caloosahatchee Estuary.

A. High Level Releases to the Caloosahatchee Under the New TSP

¹ For example, the City appreciates the Corps’ decision to measure releases into the Caloosahatchee at S-77, as opposed to S-79, and to provide for base flows to both the Caloosahatchee and St. Lucie estuaries.

In 2005, the Corps initiated the Lake Okeechobee Regulation Schedule Study (“LORSS”) to consider new alternatives to the current Lake schedule that would better address environmental concerns and infrastructure integrity issues. While a stated goal of the LORSS is to “[r]educe high regulatory releases to the estuaries,” the TSP’s performance in achieving this goal can only fairly be described as mixed. In its 2006 comments, the City requested that the Corps consider releasing more water into the St. Lucie and the Water Conservation Areas (“WCAs”), in order to alleviate some of the burden that the lake schedule places on the Caloosahatchee Estuary. Instead, the new TSP will actually increase overall annual flows to the Caloosahatchee, but will redistribute these flows to allow for a greater number of low level releases into the Estuary in order to reduce the number of high regulatory discharges.² *Id.* at E-35. The City appreciates the Corps’ efforts to rework the alternatives in order to lessen the impact of the Lake schedule on the Caloosahatchee, but without reducing the overall amount of water that is released to it, flow redistributions alone cannot effectively protect the Estuary.³

² Public comments on the 2006 DSEIS noted that the estuaries are subject to a disproportionate share of the ecological harm from the Lake Schedule. The United States Fish and Wildlife Service takes this analysis a step further, noting that among the two estuaries, the Caloosahatchee is likely to experience more “dramatic” effects from the TSP than the St. Lucie. *See* RDSEIS at C-43.

³ In fact, the Corps’ modeling shows that the new TSP would actually increase the cumulative releases to the Caloosahatchee over the POR by 1.33 million acre-feet. While a portion of this increased flow results from the addition of a base flow of 450 cfs, the fact remains that, even excluding this base flow, the TSP will not significantly reduce flows to the Caloosahatchee when compared to the No Action alternative.

The RDSEIS limits its analysis of the performance of the TSP (in comparison to the No Action and other alternatives) to a consideration of the number and duration of releases to the Caloosahatchee that exceed the salinity tolerances of submerged grasses in the Estuary. *See* RDSEIS at 137. High discharges of water into the Estuary are known to threaten the health of these grasses. According to the modeling in the RDSEIS, the TSP would result in ten fewer mean monthly flows over 2800 cfs⁴ over the thirty-five year period of record (“POR”) than the No Action alternative. *Id.* at E-92. Importantly, the new TSP also reduces the number of such events between March and June, when many estuarine dependent species reproduce. *Id.* at E-96-97. While any reduction in the number of high discharges to the Estuary is welcomed, the TSP would still result in approximately two-and-a-half times as many releases exceeding 2800 cfs as was targeted under CERP. *See* RDSEIS at E-90. Furthermore, the TSP does not reduce the number of mean monthly flows exceeding 4500 cfs,⁵ and would result in over four times as many of such releases as was targeted under CERP. *Id.* at E-90. In short, while the TSP slightly improves upon the current Lake schedule (“the WSE”) by reducing the number of high releases to the Caloosahatchee, it is still projected to seriously harm the Estuary.

⁴ The RDSEIS acknowledges that flows greater than 2800 cfs depress salinity in the lower Caloosahatchee estuary to a point where the health of Marine shoal grass is threatened. RDSEIS at 137 (citing *Doering, et al.*, 2002).

⁵ The RDSEIS acknowledges that flows greater than 4500 cfs depress salinity in San Carlos Bay and threaten turtle grass beds. *Id.* at 137.

The United States Fish and Wildlife Service (“FWS”) has noted another unfortunate reality of the proposed TSP. It “essentially redistribut[es] the flows to the Caloosahatchee in a manner that decreases the number of times that damaging flows reach the estuary, but increase[es] the duration and severity of those flow events that remain.” *Id.* at C-42. During the POR, the No Action alternative results in only twenty-eight total weeks of high flows of greater than five week duration. *Id.* at E-35. In contrast, the TSP would result in *sixty-five* weeks of high flows of greater than five week duration. *Id.* The RDSEIS, while making no effort to quantify the impact of such long-duration releases, acknowledges that they “are of concern for protecting aquatic resources, including juvenile oysters.” *Id.* FWS, in its Draft Fish and Wildlife Coordination Act Report, provides a more detailed assessment of what will result from such long-duration discharges:

Because the long duration flows greater than 4,500 cfs are the most damaging to the lower estuary from Shell Point to San Carlos Bay and the J.N. “Ding” Darling NWR, the Service is very concerned about the increase in duration of these flows . . . Oysters and seagrass beds are important estuarine resources in this area that would be negatively impacted by these long duration extreme high flows . . . The TSP therefore has a greater potential than the base condition to reduce the density and cover of seagrass beds in the lower estuary and/or contribute to shifts in their community composition. Additionally, the TSP has a greater potential than the base condition to reduce the abundance and productivity of oysters in the lower estuary and potentially flush oyster spat downstream to areas less suitable for establishment and long-term survival.

Id. at C-42. The RDSEIS defends the proposed TSP as “an intermediate step,” which “cannot result in significant improvement until more storage is available

within the system.” *Id.* at 11. The City, like FWS, is seriously concerned that even this intermediate step may inflict lasting damage on the Caloosahatchee.

The Corps’ decision to withdraw the previous TSP and model additional alternatives was necessary, but moving forward, the Corps must take concrete steps both to increase flows into the Everglades and WCAs and to expand significantly water storage capacity in and around Lake Okeechobee.

Otherwise, continued deterioration of the Caloosahatchee and St. Lucie estuaries due to high regulatory releases from Lake Okeechobee will be unavoidable.

B. Use of All Available Water Storage Lands

The City’s 2006 comments requested that, at a minimum, the approximately 450,000 acre-feet of public and private property identified by the South Florida Water Management District (“SFWMD”) should be designated as emergency storage areas to be used prior to or in conjunction with other scheduled releases to lessen releases to the Estuaries. As the RDSEIS notes, on January 11, 2007, at the urging of the City and numerous other stakeholders in Central and South Florida, the SFWMD Governing Board passed District Resolution No. 2007-126 requesting that the Corps take increased storage capacity on public and private lands for lake releases into consideration as part of the LORSS. SFWMD has already identified 150,000 acre-feet of storage volume, including the Holeyland and Rotenberger water management areas (“WMAs”), and has identified an additional 300,000 acre-feet that can be made available in the near term. The Corps has expressed that it is “strongly supportive of this initiative and continues to work with SFWMD on ways to proceed,” but has chosen not to incorporate increased water storage into the

Lake schedule and evaluates the effects of this measure in the Revised DSEIS “for informational purposes only.” *Id.* at 95.

The brief informational assessment of incorporating newly identified lands available for the storage of excess lake water in the RDSEIS confirms what many stakeholders have known for years -- increased storage capacity results in fewer discharges to the estuaries. Indeed, increased water storage is recognized by most, if not all stakeholders, as one of the only practical solutions to the water surplus and water shortage problems that plague the WSE, and the Corps’ own analysis now shows that flow reductions of up to 25% are possible.⁶ Yet, the revised 2006 DSEIS, published over six months after SFWMD issued its Resolution, still does not provide any substantive analysis of this issue. The new document does not reflect any attempt to locate additional land for storage, nor does it set forth any operational guidance for managing the LORS when the new storage comes online. Given the RDSEIS’ continued insistence that the Lake schedule cannot independently resolve the problems posed by Lake discharges to the estuaries, it is imperative to do this.⁷ Only by undertaking and considering this substantive analysis can the Corps take the basic step necessary to ensure that the benefits of additional water storage are realized as soon as is practical.

⁶ Discharges to the estuaries could also be significantly reduced if additional water treatment capacity is developed to allow for higher flows from Lake Okeechobee into the WCAs and the Everglades.

⁷ The City offers its specific recommendations for incorporating additional water storage into the Lake schedule in Section II.D.

The RDSEIS should have incorporated the SFWMD's additional water storage capabilities into the TSP and provided a mechanism for incorporating additional storage into the schedule over the course of the next three years. As it stands now, even if 450,000 acre-feet of water storage is made available in the coming months, the Lake schedule has not been designed to account for this storage that could spare the Estuaries from future high discharges. The City requests that the final Lake schedule operational guidelines expressly provide that excess Lake Okeechobee water will be stored on those and other available properties (as infrastructure allowing its containment, conveyance and release from each property becomes available, at least in part through the continuing efforts of the SFWMD) in preference to being released through the estuaries at rates that regional experts agree are not biologically sound.

The RDSEIS already includes a summary of the modeling performed to assess the ability of increased water storage to reduce the number of intermediate and high discharges in the estuaries. The modeling, however limited in scope, demonstrates the importance of incorporating additional water storage into the Lake schedule. If 450,000 acre-feet of water storage is made available to receive water that would otherwise result in extreme high flows to the estuaries, the Caloosahatchee would experience a 25% reduction in such flows over the POR. *See* RDSEIS at 98. Even with only the 150,000 acre-feet of storage currently available, the Caloosahatchee would experience nearly a 14% reduction in extreme high flows. *Id.* These reductions are simply too

significant⁸ to the estuaries' health to be put off until 2010; the Corps must act now, coordinate with SFWMD, and bring all available emergency water storage online.

C. “Additional Operational Flexibility” and “Make-up Releases”

The City previously expressed grave concerns over the application of certain categories of releases as part of the proposed LORS. Specifically, the City noted that the inclusion of “non-typical temporary operations” (“NTOs”) and “make-up releases” would eliminate whatever constraints remained in what was already an excessively discretionary Lake schedule. The RDSEIS modeled the performance of the new TSP over the POR as well as the years 2001-2005, and concluded that it would never result in a Lake elevation of over 17.25 feet. *See id.* at A-13. The Corps has yet to explain why, if the new TSP is so effective at keeping Lake elevations below this elevation, the Lake schedule requires additional operational flexibility and make-up releases in the first place. While the RDSEIS has proven responsive to some of the City's comments

⁸ The City is concerned by the statement in the RDSEIS that “utilization of storage to capture local basin runoff may reduce or eliminate storage availability to capture Lake Okeechobee releases that may follow.” *See id.* at 99. The capture of Lake Okeechobee releases should be the chief purpose of any additional water storage areas that are designated for use by SFWMD. The Corps has defended the TSP as the best interim solution for the Caloosahatchee until other CERP projects are brought on line to repair the Herbert Hoover Dike and construct additional water storage for Lake Okeechobee. The first priority for any additional water storage that is made available should be the prevention of high discharges to the Caloosahatchee and St. Lucie Estuaries, which have born the brunt of Lake releases under the current schedule.

regarding these releases, the City agrees with FWS's assessment⁹ that the new TSP continues to allow too much discretion for Lake managers to release high discharges into the Caloosahatchee whenever they see fit and believes that the proposal does not provide an appropriate level of accountability to ensure balanced decision-making.

1. Additional Operational Flexibility

Under the WSE, Lake managers can only authorize releases in excess of what is permitted by the Lake schedule by seeking a temporary deviation from that schedule. Importantly, these temporary deviations are subject to notice and comment requirements. In the withdrawn 2006 DSEIS, the Corps had proposed incorporating NTOs that would have enabled Lake managers to deviate from the normal release limitations of the Lake schedule under a number of circumstances. The RDSEIS, as requested by the City, scales back the NTO proposal (which is now referred to as "Additional Operational Flexibility") so that only undesirable prolonged high Lake levels, climate conditions (e.g. el Niño, la Niña, or active hurricane season forecasts), or a need for low-volume releases would enable Lake managers to deviate from the Lake schedule. *Id.* at 82-83.

Additional Operational Flexibility nonetheless retains much of the relatively unfettered discretion that made the NTO proposal in the 2006 DSEIS

⁹ FWS explains that "[w]hile a certain level of operational flexibility is desirable, we find that the proposed operational guidance is too vague and provides an excessive level of flexibility leaving too much uncertainty for stakeholders." *Id.* at C-49.

so controversial. For example, the RDSEIS provides that “[w]hen possible, the lake releases to tide (estuaries) would be limited to a pulse release from Lake Okeechobee not to exceed 2800 cfs measured at S-79.” *Id.* at 82. It follows that there may be instances where Lake managers will seek additional operational flexibility to depart from the Lake schedule and release non-pulse discharges exceeding 2800 cfs. Inexplicably, the RDSEIS places no limitations on when such releases will be allowed. The Corps has essentially proposed a Lake schedule that it acknowledges gives Lake managers broad discretion, and then also requests the ability to ignore that schedule when they see fit. The TSP already gives Lake managers substantial flexibility to authorize high discharges of water into the Caloosahatchee even when Lake elevations are at low or intermediate levels. The new TSP would allow releases of up to 3000 cfs, which exceed the salinity measures for estuary seagrasses, even when Lake elevations are low, and releases of up to 6500 cfs at intermediate levels. *See id.* at 73. By incorporating further discretion into the schedule, the Corps unnecessarily opens itself to criticism that it has shirked its statutory obligations under NEPA and foreclosed public participation with these important decisions. This unenviable position could be avoided simply by injecting additional accountability into the Lake managers’ decision-making process.

2. Make-up Releases

The City objected to the 2006 DSEIS’ proposal to allow make-up releases in instances when otherwise authorized releases are impeded by certain conditions. We asked that the Corps either eliminate this category of releases or expand it to include both releases to tide and those through the Everglades

Agricultural Area (“EAA”) to the WCAs. The RDSEIS now provides that such releases will be authorized both to the estuaries and the WCAs, and make-up releases into the Caloosahatchee to 2800 cfs pulse releases. *See id.* at A-12.

The City continues to believe that the Corps has not adequately justified the inclusion of make-up releases in the Lake schedule. If a release to the Caloosahatchee is temporarily prevented because of downstream conditions, Lake levels will either continue to rise or they will not. If Lake levels continue to rise after the prevented release, then subsequent releases would likely be authorized under the guidelines for the Lake schedule. If Lake levels do not continue to rise, then additional releases need only be authorized if permitted by the Lake schedule. The City therefore renews its request that make-up releases, which add additional and unnecessary discretion to a Lake schedule that is already sufficiently flexible, be removed from the proposal. Such releases are simply an extraneous measure that will expose the Corps to unnecessary criticism from stakeholders who will be unaware of the bases for these decisions.

II. THE CITY’S REQUESTS FOR IMPROVING THE LORSS AND MITIGATING HARM TO THE ESTUARY

For too long, the Caloosahatchee River has been treated as little more than a conduit for releases from Lake Okeechobee, with insufficient attention paid to the consequences such releases inflict on the Estuary. During the hurricane seasons of 2003 through 2005, the City was left with little recourse when temporary deviations from the WSE sent discharges of nutrient-laden freshwater far in excess of what the Caloosahatchee Estuary could naturally

tolerate. The City was assured that the 2006 LORSS would take the concerns of the Caloosahatchee Estuary into account, and that the Lake schedule would be formulated with an aim toward reducing harmful discharges into the Estuary. When the 2006 Draft failed to live up to either of these commitments, the Corps withdrew the document, pledging to consider additional alternatives that would improve performance in the Caloosahatchee Estuary. The revised TSP instead expands the discretion of Lake managers to release high flows of freshwater into the Estuary – a result that perpetuates the *status quo*, and asks the Caloosahatchee to shoulder a disproportionate share of the burden from Lake releases.

Neither the 2006 DSEIS nor the RDSEIS acknowledge the need to mitigate the harms that the Lake schedule will inflict on the Estuaries. The Corps' legal obligation is plain -- Environmental Impact Statements must include a discussion of the "[m]eans to mitigate adverse environmental impacts."¹⁰ 40 C.F.R. § 1502.16. If the TSP is adopted in a Record of Decision ("ROD"), which the RDSEIS acknowledges will do little to rectify the harms that the current Lake schedule inflicts upon the Caloosahatchee Estuary, the Corps must consider mitigation of these harms. CEQ regulations define mitigation to include the following:

- avoiding the impact altogether by not taking a certain action or parts of an action;

¹⁰ This CEQ requirement applies unless the agency in question has already considered mitigation as a part of its alternatives analysis (40 C.F.R. § 1502.14(f)), which the Corps has not done.

- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or
- compensating for the impact by replacing or providing substitute resources or environments.

40 C.F.R. § 1508.20. In the past, the Corps may have viewed the Lake schedule as merely an operational project, but its revised environmental analysis concedes that Lake releases have nonetheless caused significant and far-reaching damage to the Caloosahatchee Estuary. Implementation of the new Lake schedule will continue to impact the Estuary in the future. Therefore, mitigation of these impacts must be considered and included in the ROD.

The City urges the Corps, before finalizing the TSP, to develop a plan in which it considers and commits to the following steps over the next three years to mitigate the environmental impacts that will result from both the new Lake schedule and the revised schedule expected in 2010: (1) expand the scope of the environmental impacts analysis in the LORSS with respect to the Caloosahatchee Estuary, including thorough analysis of estuarine stressors (salinity, nutrients, sedimentation, etc.) both individually and collectively as well as indirect and cumulative effects of the proposed action on the environment; and (2) work with interested stakeholders to incorporate alternative outlets and treatment capabilities for Lake Okeechobee releases. The Corps should begin implementing this plan immediately after finalizing the TSP

to ensure that the 2010 schedule addresses the numerous uncertainties associated with the proposed 2007 LORS.

A. Improving Upon the Impacts Analysis in the LORSS

The City remains hopeful that the Corps will take additional steps between now and the issuance of a ROD to improve upon the TSP and the RDSEIS, but understands that some of its suggestions may require more time than is available for incorporation into the current LORSS. The City asks, at a minimum, that the Corps commit to ensuring that future iterations of the LORSS are not similarly deficient. With this in mind, the City requests that the Corps undertake the following tasks over the course of the next three years, to ensure that when the time comes to evaluate a new Lake schedule in 2010, the Corps has all the data and modeling it requires in order to adequately assess the environmental impacts of that schedule on the Caloosahatchee Estuary.

1. Expand Water Quality Modeling in the LORSS

The RDSEIS omits any analysis of current water quality data, which is essential to: (1) assess the impact of the current Lake schedule on the Caloosahatchee Estuary; (2) establish a present condition for comparison with projected responses to releases from Lake Okeechobee; and (3) discover data gaps and missing information for the development of a comprehensive water quality monitoring program. While the RDSEIS cites the recent report by Doering (2006), which presented some water quality trends from 2000 to 2005 in the Caloosahatchee, that report focused only on nutrient loading at the Franklin Lock and Dam (S-79). The RDSEIS too often substitutes qualitative descriptions of environmental harms for a more substantial quantitative analysis

that only a comprehensive water quality model can provide. To accurately gauge the impacts of the Lake schedule on the Caloosahatchee Estuary, the Corps will need to apply models for salinity, sedimentation, nutrients, and eutrophication.

a. Salinity

Quantifying the response of salinity to the change of freshwater flows is a critical step in assessing the salinity impact of increase releases from Lake Okeechobee. The RDSEIS continues to cite the performance measure NE-3 Caloosahatchee Estuary Salinity Envelope, which relies on the use of steady-state and/or statistical (regression) models to assess the salinity impact. Both models are outdated and incapable of addressing the temporal and spatial variations of salinity impacts.

The statistical models used for the RDSEIS simply are inaccurate due to the wide range of salinity values, even at the 95% confidence level. The results from these models also are incomplete because they do not account for freshwater flows from sources downstream of S-79. The steady-state models are similarly inadequate to assess salinity impacts, most notably because these models do not account for the temporal effect of releases from Lake Okeechobee. Estuaries such as the Caloosahatchee rarely reach a steady state any given time of the year, particularly during the hurricane season. There is a response time for salinity in the Caloosahatchee Estuary to react to the change of inflow to the system, depending on the flow rate. It is therefore possible that salinity levels have not reached a steady state condition prior to the change of

the inflow. This phenomenon is particularly acute during discharges from Lake Okeechobee into the Estuary.

To quantify accurately the salinity impact of releases from Lake Okeechobee, the Corps should use a hydrodynamic model for the Caloosahatchee Estuary. Fortunately, this type of modeling framework, in which flows from different sources and tidal effects are incorporated into the computation, has already been developed. SFWMD developed such a hydrodynamic model by first configuring the Corps' CH3D model (a very general code originally developed for the Chesapeake Bay by the Army Engineers Waterways Experiment Station in Vicksburg, MS) for application to Charlotte Harbor, FL. The salinity model for the Caloosahatchee Estuary was then excerpted from the larger CH3D Charlotte Harbor model. Subsequently, the Caloosahatchee Estuary portion of the model was calibrated by the SFWMD staff using intensive salinity data collected every 15 minutes at five stations (see Figure 1) over a period of two and half months from October 15, 2000 to December 31, 2000.

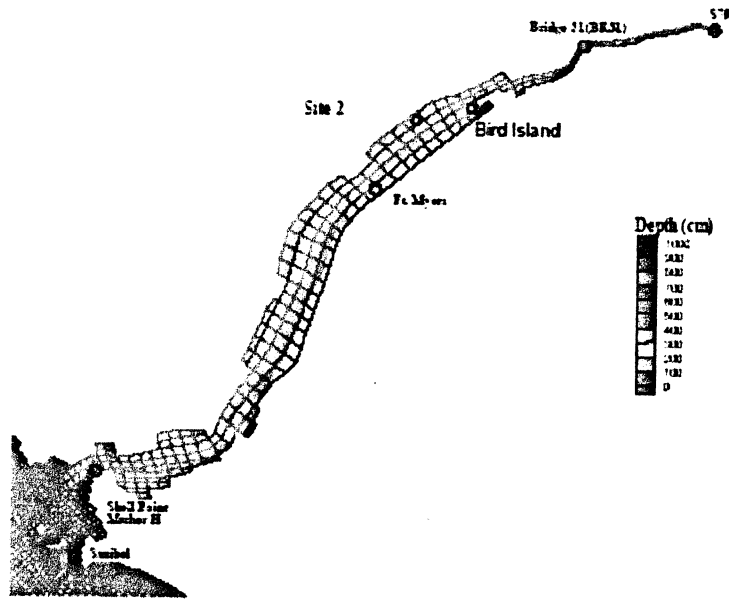


Figure 1. Monitoring stations of an intensive salinity survey: S-79; Bridge 31 (BR31); Ft. Myers, Shell Point (Marker H); and Sanibel. Also shown is the bathymetry of the Caloosahatchee Estuary (from Section 4 of the Caloosahatchee MFL 2002 Status Update Report)

This type of model could be applied to determine the impact of high discharges into the Estuary on salinity levels. Figure 2 presents the flow hydrographs at S-77 and S-79 from 2000 to 2003, showing significant flow rates in the summer of 2001, 2002, and 2003. Once the hydrodynamic model is fully calibrated and verified with actual field data from the Estuary, it can be used to compute the real-time salinity levels in the Caloosahatchee Estuary in these summers (as well as for all years in the POR), as if the Lake schedule was in effect.

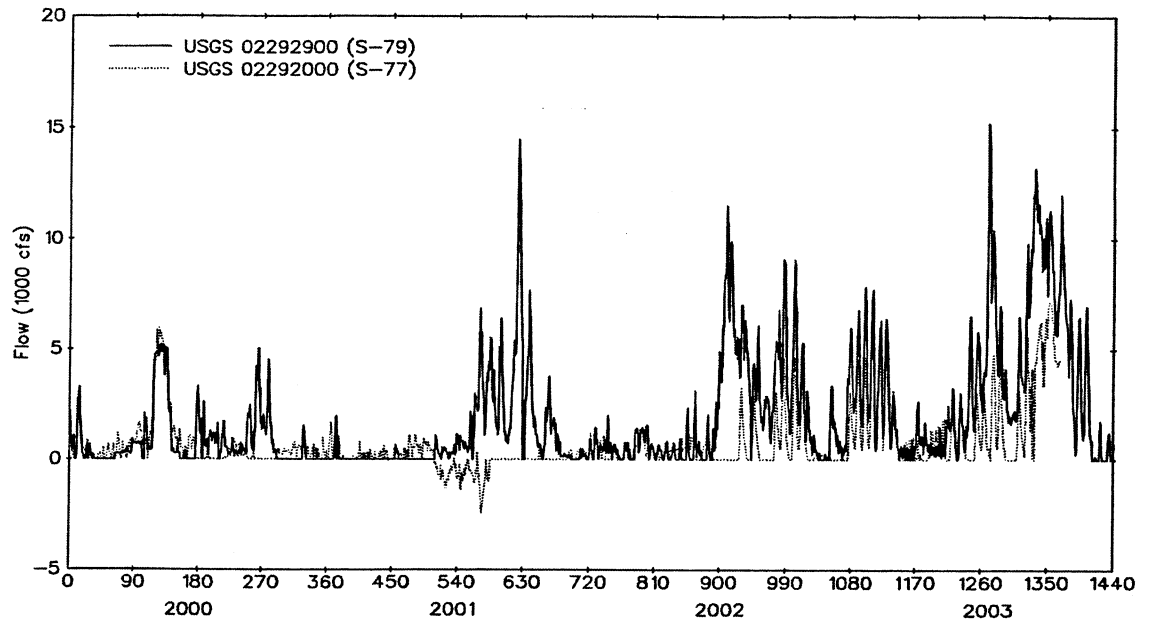


Figure 2. Mean Daily Flows at S-77 and S-79 in 2000 to 2003 (data from USGS)

Data gathered in 2004 provides a basic understanding of how such flows affect salinity levels in the Estuary. The United States Geological Survey (“USGS”) maintains a gaging station 02292900 at S-79 near Olga, FL. The discharge records started in 1966. Figure 3 shows the daily mean discharge rate (in 1000 cfs) in 2004. Most flows during the period from January to July are below 3000 cfs, followed by sharp increases in August, September, October, and November. A peak daily mean flow of 13,000 cfs was recorded on October 1st. The flows decline significantly in December 2004. Also shown in Figure 3 are the median (50%) daily mean flows over the 39-year period from 1966 to 2005. Except for the period from mid-June to mid-August, the 2004 flows are much higher than the historical median flows in the Caloosahatchee, suggesting a wet year for 2004.

Also, shown in Figure 3 are six vertical profiles of salinity measured at CES06, the most downstream of the three stations selected. The first four

profiles show no appreciable vertical variations of salinity levels in the estuary. By March 29th (the fifth profile), salinity levels in the estuary have increased following a period of relatively low freshwater inflow from upstream. Salinity values for the second half of the year generally show a sharp decrease to almost zero (not shown) resulting from the increase in freshwater flows during the storm season. These data demonstrate the extent to which high freshwater flows can push salt downstream.

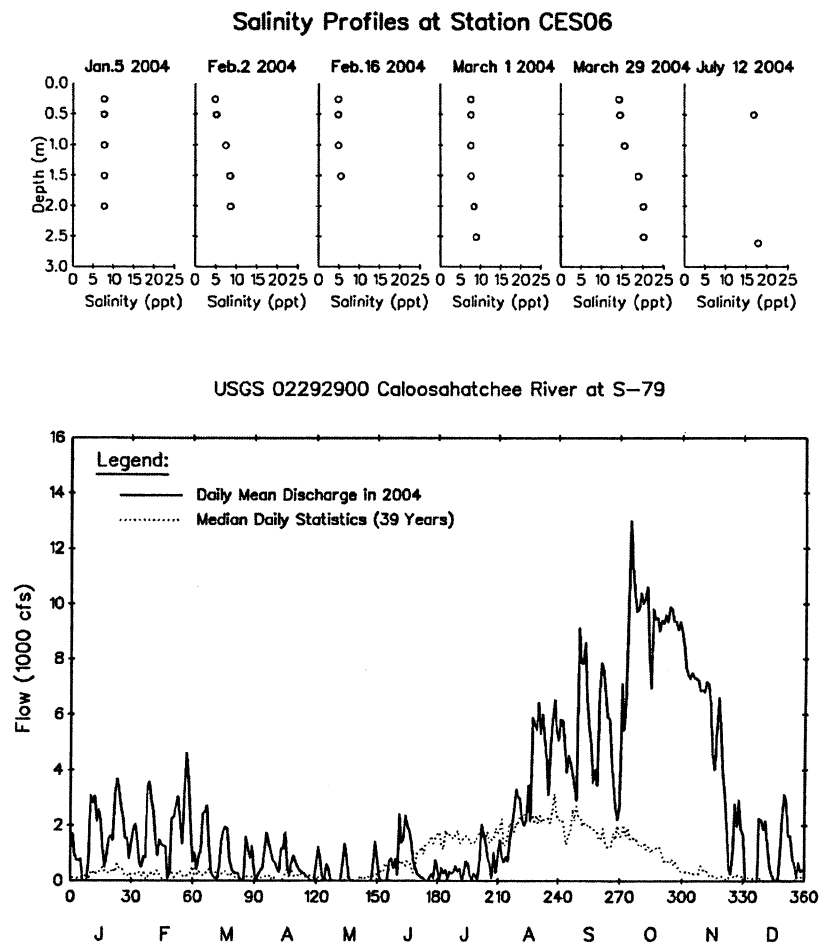


Figure 3. Mean daily flows at S-79 and salinity profiles at CES06 in 2004

As the above discussion shows, a hydrodynamic model of the kind employed by SFWMD is needed to more accurately quantify the salinity impact of Lake releases. The Corps must establish a more comprehensive data set than currently exists to support this analysis. Only with a more extensive monitoring program, of the type described in Section II.B.1, will the Corps be able to effectively use hydrodynamic modeling in future Lake Studies.

b. Sediment Impact

The Corps has access to an existing sediment model that can improve the environmental impacts analysis in future Lake Studies. The turbidity of the Caloosahatchee Estuary is closely related to the suspended solids concentrations in the water column, thereby affecting algal growth in the mid and lower Estuary. Since the temporal and spatial distribution pattern of suspended solids is strongly affected by salinity intrusion, which is also a function of the freshwater flow rates to the Estuary, a well-calibrated and verified hydrodynamic model is a key step in modeling the suspended solids concentrations in the Caloosahatchee Estuary.

The Corps can utilize the Environmental Fluid Dynamic Code (“EFDC”), which is capable of simulating suspended solids concentrations in an estuarine system. EFDC, <http://www.epa.gov/ATHENS/wwqtsc/html/efdc.html> (Hamrick 1992, Hamrick and Wu, 1997), is a state-of-the-art hydrodynamic model that can be used to simulate aquatic systems in one, two, and three dimensions. It has evolved over the past two decades to become one of the most widely used and technically defensible hydrodynamic models in the modeling field.

Total suspended solids (“TSS”) data at CES03, CES04, and CES06 in 2004 are presented in Figure 4. The TSS levels at CES04 are the highest among the three locations, suggesting turbidity maxima, a phenomenon showing peak TSS levels in the middle of the estuarine system usually observed in many partially mixed estuaries such as the Caloosahatchee. Data at CES04 show significant vertical variations of the TSS concentration (i.e., the highest concentrations are usually measured as the bottom of the water column due to settling of suspended solids). Light attenuation in the water column is closely affected by the TSS levels.

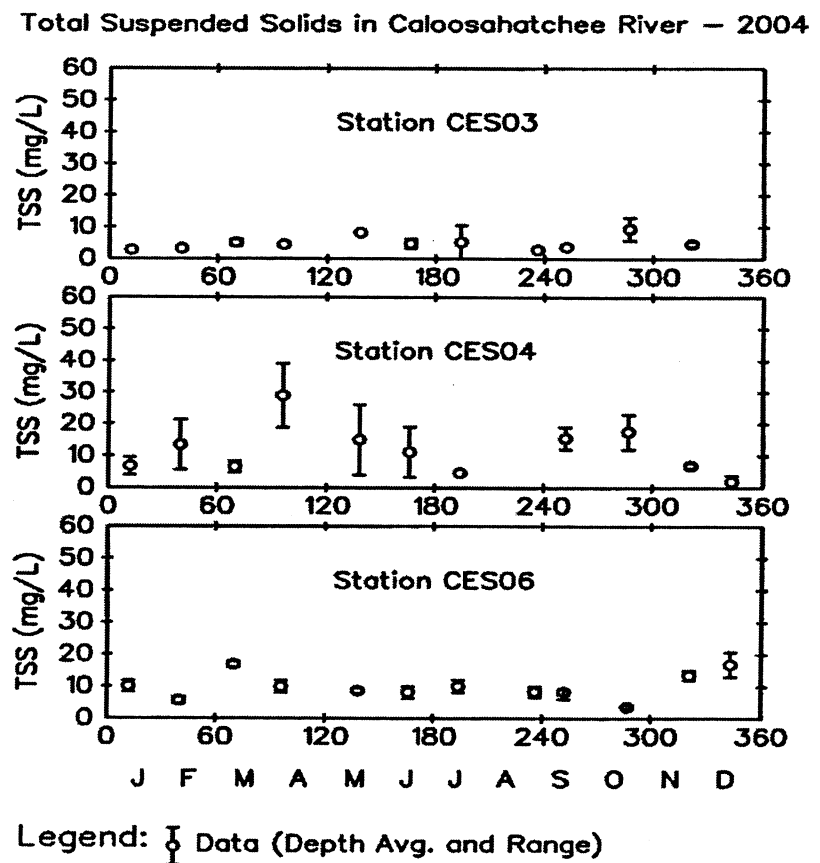


Figure 4. Total suspended solids in the Caloosahatchee Estuary

While EFDC can be configured to model sediment transport and to simulate total suspended solids concentrations in the Caloosahatchee Estuary, such a modeling analysis must be supported by a significant amount of data for calibration. A thorough analysis of the suspended solids data in the Caloosahatchee is crucial to the success of such a modeling exercise.

c. Nutrients and Eutrophication

Most water quality studies of the Caloosahatchee Estuary are limited to assessments of the nutrient levels in the water column and nutrient loading at the head of the Estuary (i.e., the Franklin Lock and Dam (S-79)). While a recent study by Doering (2006) presented some data on dissolved oxygen and chlorophyll *a* in the Caloosahatchee Estuary, additional quantitative assessments of the present conditions in the water column are needed to allow for informed consideration of these inputs. The missing link is a quantitative cause-and-effect relationship between nutrient loads and the two key endpoints of eutrophication (or algal blooming), namely dissolved oxygen and chlorophyll *a*.

A comprehensive eutrophication model for the Caloosahatchee Estuary can track the fate and transport of nutrients, algal growth, and recycling of nutrients. Another important factor, sediment diagenesis, has not yet been studied for the Caloosahatchee. The City recommends that the Corps develop a fate and transport model for nutrients and phytoplankton to simulate real-time concentrations of nutrient components and algal biomass levels in the Caloosahatchee Estuary. The development of such a model is essential to assessing the impact of high discharges from Lake Okeechobee into the Caloosahatchee. Baseline field data will be required to calibrate the modeling

framework. One of the most recent estuarine eutrophication models, developed for the Patuxent Estuary, is discussed in detail in Lung and Nice (2007). Similarities between the Caloosahatchee and Patuxent Estuaries make application of this model valuable. Both are partially mixed estuaries except that the Caloosahatchee is approximately half of the size of the Patuxent. Figure 5 shows the water column kinetics for the Patuxent Estuary, which is based on the Army Corps of Engineers CE-QUAL-W2 model with substantial enhancement. Note the sediment diagenesis module which is the state-of-the-art in modeling sediment-water interactions for eutrophication.

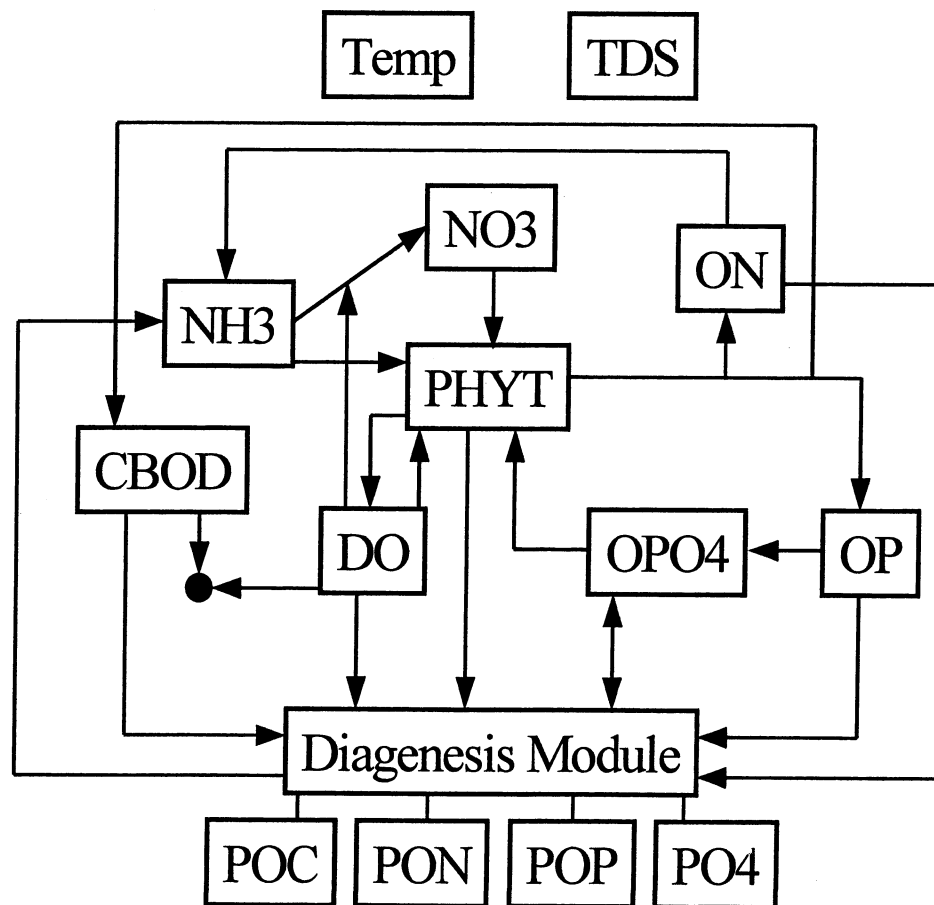


Figure 5. The Patuxent Estuary Eutrophication Model (Lung and Nice 2007)

A eutrophication model for the Caloosahatchee Estuary would enable the Corps to undertake a detailed assessment of the environmental impacts of alternative Lake schedules on the Estuary. To demonstrate the usefulness of such a model, the City includes a brief survey of data from the Caloosahatchee Estuary regarding the factors that are known to contribute to eutrophication. Since current data is unavailable, the City relies upon data collected in 2004¹¹ under the Caloosahatchee Estuary Water Quality Monitoring Program (“CESWQ”).

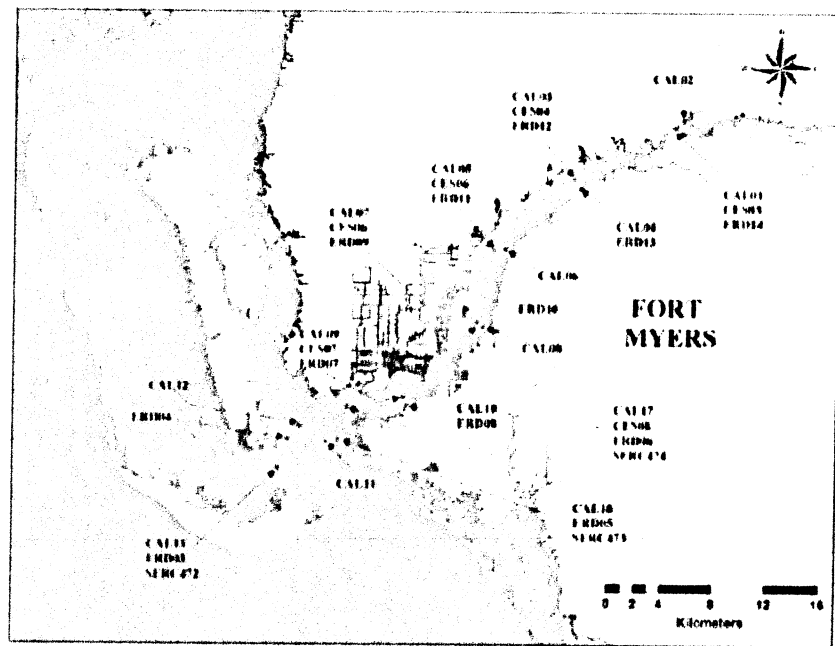


Figure 6. Locations of water quality sampling stations in the Caloosahatchee Estuary and San Carlos Bay (from Doering 2005)

¹¹ The sampling stations labeled as CES01 – CES11 (see Figure 6 for their locations) have the most data. Among these stations, CES03, CES04, and CES06 have the most complete coverage for 2004 on a monthly basis. Note that these three stations cover the upper and middle portions of the Caloosahatchee Estuary.

Figure 7 shows the nitrite/nitrate concentrations in the Caloosahatchee at the same three locations. Slight temporal attenuation of the nitrite/nitrate levels along the Caloosahatchee results in a gradual decrease of the concentrations in the downstream direction from Station CES03 to Station CES06. A strong seasonal trend of nitrite/nitrate levels is displayed, leading to an extremely low level in the summer, reaching the potential of a nitrogen limitation for algal growth in July. Estuarine waters are typically too nitrogen deficient to support algal growth. The sharp increase of nitrite/nitrate in the Caloosahatchee starting in September is probably due to the increase of the freshwater flows from Lake Okeechobee and the agricultural drainage in the watershed.

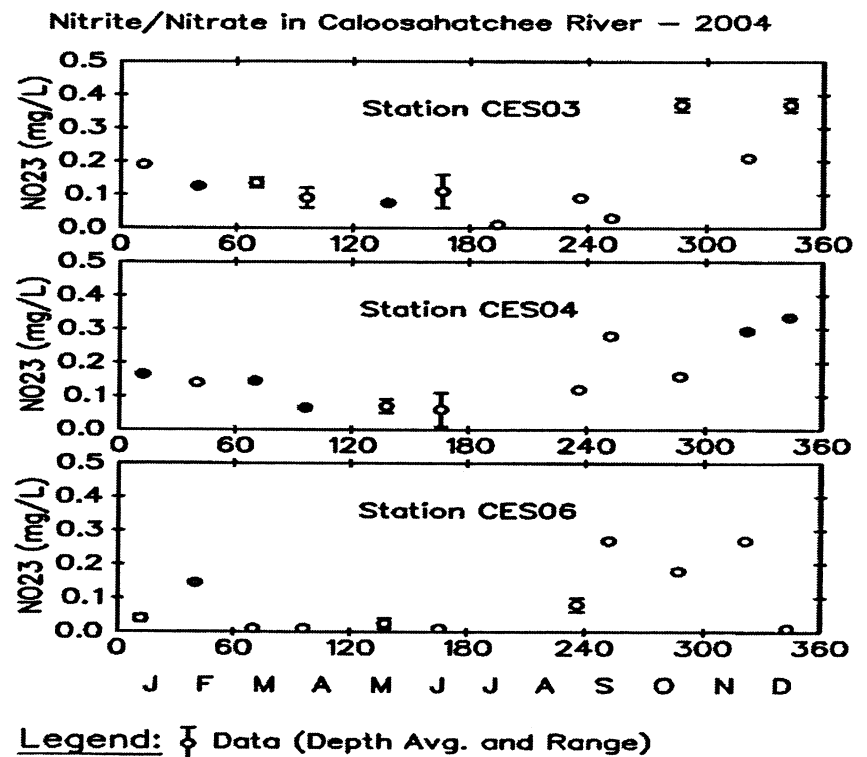


Figure 7. Nitrite and Nitrate in the Caloosahatchee Estuary, 2004

Orthophosphate and total phosphorus concentration plots are shown in Figure 8. Orthophosphate represents approximately 50% of the total phosphorus contents in the Caloosahatchee. In general, the orthophosphate (being a key food supply for algae) levels are sufficient to support algal growth and not considered as a growth-limiting factor based on the data.

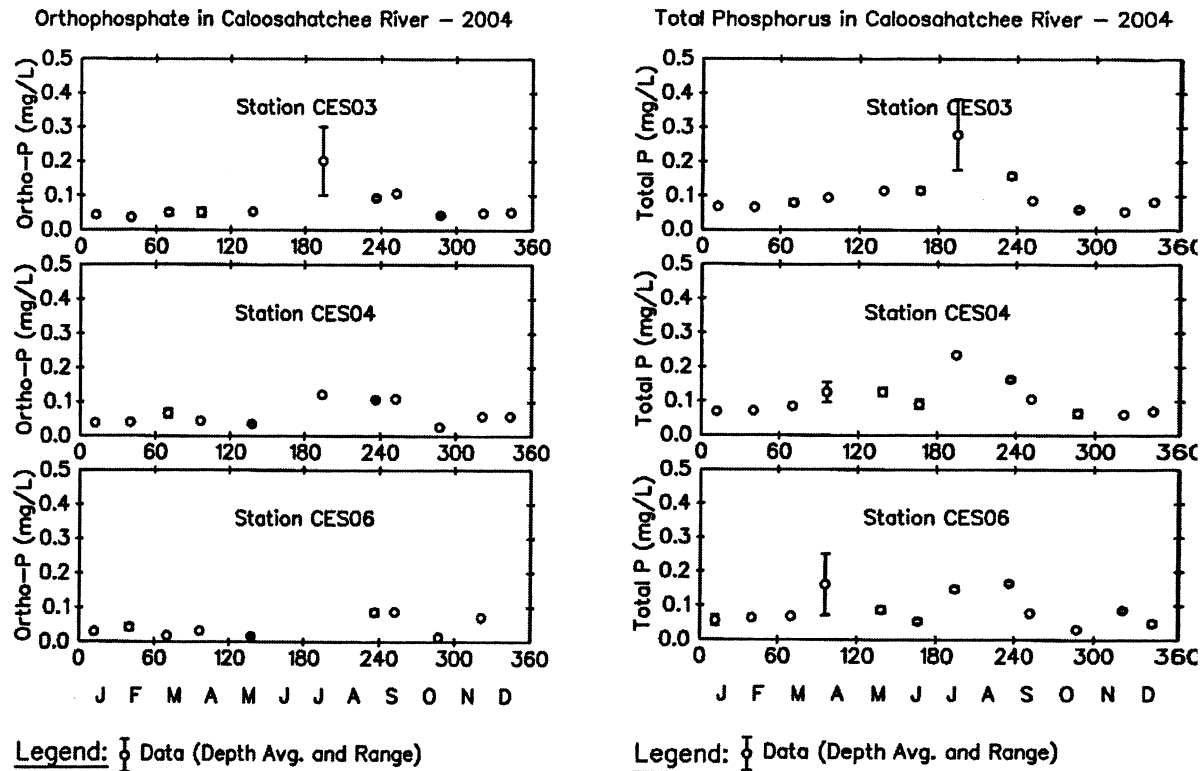


Figure 8. Orthophosphate and total phosphorus concentrations in the Caloosahatchee Estuary, 2004

Chlorophyll *a* concentrations in the Caloosahatchee are presented in Figure 9, showing a highest peak of chlorophyll *a* (at an alarming level above 80 μ g/L) at CES06 during the month of July.

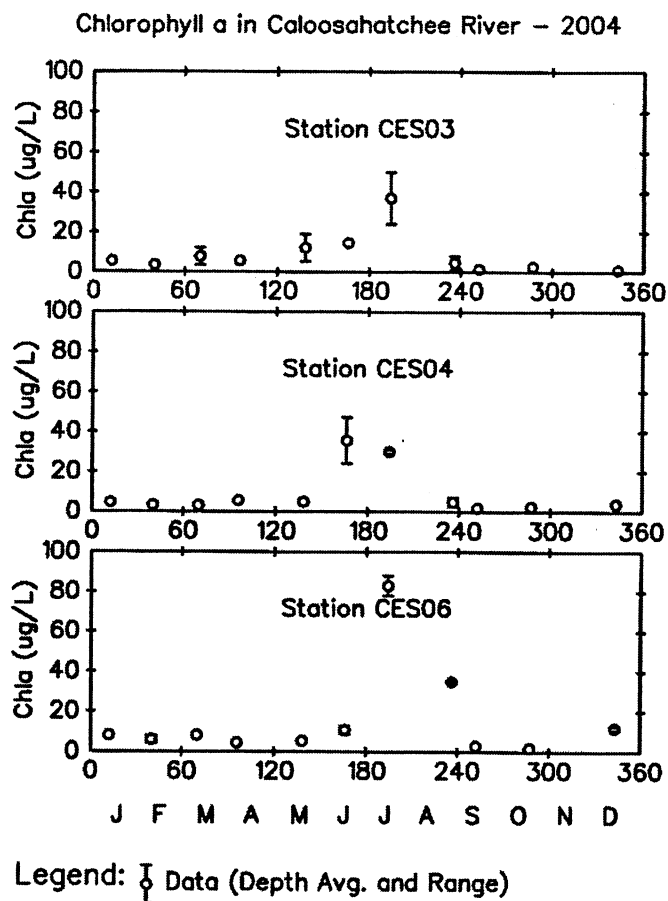


Figure 9. Algal biomass as chlorophyll *a* in the Caloosahatchee Estuary, 2004

Figure 10 presents the dissolved oxygen (DO) data in the Caloosahatchee Estuary in 2004. Gradual depression of DO at CES03 and CES04 from the beginning of the year to the summer months is shown. The DO levels at CES06 are slightly higher, showing a peak DO level in early July corresponding the peak chlorophyll *a* (see Figure 9) due to significant photosynthetic activities in the water column.

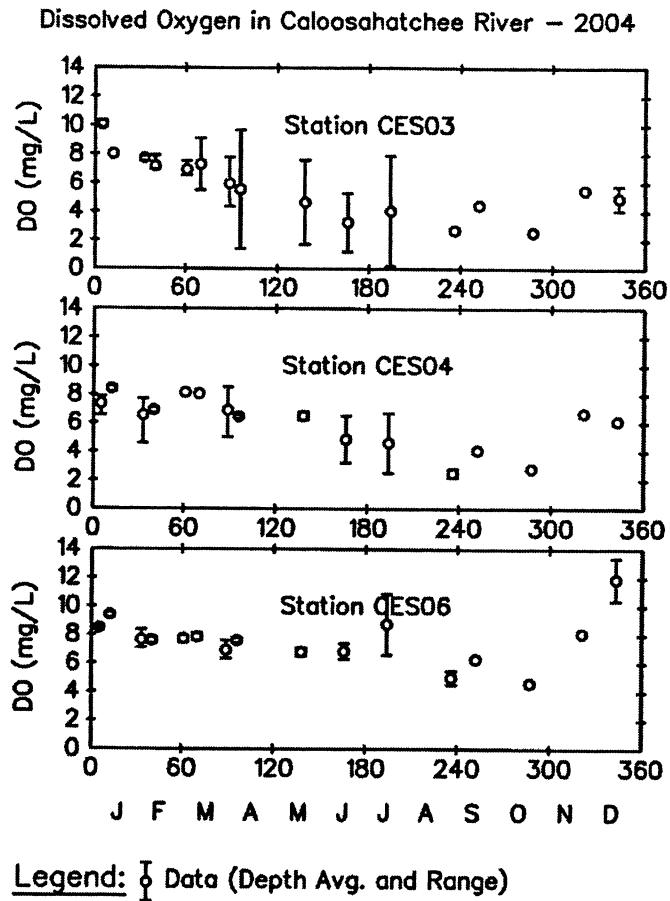


Figure 10. Dissolved oxygen in the Caloosahatchee Estuary, 2004

As the above discussion demonstrates, raw monitoring data can provide some information about the interaction between the Lake schedule and conditions in the Caloosahatchee Estuary. A eutrophication model would enable the Corps to use this data to assess the extent to which freshwater flows from Lake Okeechobee impact nutrient levels and algal growth in the Estuary. As with the salinity and sediment models, however, a significant amount of field data will be needed to support such a comprehensive modeling effort.

B. Expand Water Quality Monitoring in the Caloosahatchee River and Estuary

A substantial body of water quality data using the various modeling programs outlined above will be necessary to adequately assess the environmental impacts of the Lake schedule. One of the most significant deficiencies of the environmental impacts assessment in the RDSEIS is its failure to utilize such data for the Caloosahatchee Estuary. CEQ regulations require “[a] monitoring and enforcement program” be adopted in the ROD “where applicable for any mitigation.” 40 C.F.R. § 1505.2(c). At a minimum, the Corps can compile data on the current phosphorous, nitrogen, and salinity concentrations of the Estuary, the presence of harmful algal blooms, and the populations of indicator species to validate a baseline for comparison of alternatives. This data will serve two important purposes when the next Lake schedule is evaluated in 2010. First, it will allow the Corps to provide a baseline assessment of the Estuary so that the potential impact of alternative Lake schedules can be assessed. Second, it will allow the Corps to assess the performance of the current and future Lake schedule alternatives.

Additional monitoring data is necessary to assess the impacts of the Lake schedule on the Caloosahatchee Estuary in real time. The RDSEIS depends upon the South Florida Water Management Model (“SFWMM”) to project how the TSP would perform over the POR; monitoring data will explain how the TSP actually performs in practice. For example, instead of broad generalizations that releases over 2800 cfs “depress salinity in the lower estuary and threaten the marine shoal grass” (*See id.* at 137), future Lake Studies should

quantify the salinity levels in the estuary and document the extent of decline in seagrasses since the implementation of the Lake schedule. Instead of relying upon SFWMD estimates for water and nutrient loads within the Caloosahatchee from 2000 (*See id.* at 133), the Corps should have access to current data on the sources and the concentrations of nutrient loading into the Caloosahatchee Estuary.

1. Use of existing monitoring programs

The Corps' monitoring of the performance of the Lake schedule in the Northern Estuaries should incorporate those monitoring programs already in place. As of December 2006, the following RECOVER monitoring components were either underway or at least partially implemented in the Caloosahatchee Estuary:

- a salinity monitoring network;
- a water quality and phytoplankton monitoring network (partially implemented);
- SAV mapping from aerial photography;
- SAV monitoring for the Caloosahatchee Estuary;
- an oyster monitoring network; and
- a juvenile fish community monitoring network.

See Monitoring and Assessment Plan (MAP), Part 2 at 82, 2006 Assessment Strategy for the MAP (RECOVER 2006). These monitoring programs are available for use in the development of a new Lake schedule, but are not referenced in the RDSEIS. Because the data generated through these programs provides crucial information about baseline conditions and impacts to the

affected environment, the Corps should make use of the monitoring programs discussed above, and further coordinate with federal, state and local agencies and universities to utilize whatever additional monitoring data is being generated.

Doering (2006) lists six water quality monitoring programs that currently exist for the Caloosahatchee Estuary:

- CR: The Caloosahatchee River (CR) program sampled just upstream of the Franklin Lock and Dam (S-79).
- CAL: The Caloosahatchee Estuary Program sampled water quality at 17 stations in the estuary (Shell Point to S-79), San Carlos Bay, Matlacha Pass, and Pine Island Sound.
- CALHF: The Caloosahatchee Estuary High Flow effort sampled monthly at 8 stations from 10/1994 to 8/1996.
- CES: The Center for Environmental Studies program sampled 7 stations in the estuary (S-79 to Shell Point) and one (1) station upstream of S-79 on a monthly basis from 4/1999 to 3/2002.
- SERC: Southeastern Environmental Research Center program sampled 8 stations in San Carlos Bay, Pine Island Sound, Matlacha Pass and the Gulf of Mexico on a monthly basis.
- ERD: The Environmental Research and Design Program sampled 15 sites in the Caloosahatchee Estuary for two month long periods in each of the three years (2000, 2001, 2002).

Unfortunately, only fragmented data were obtained from these sampling programs and they are insufficient on their own to support water quality modeling. The Corps will therefore need to expand its own monitoring program in order to obtain the data sets required for a more substantial impacts analysis in the Caloosahatchee.

2. Monitoring in Support of a Comprehensive Water Quality Model

Eutrophication modeling will require a more extensive data set than is currently available in the Caloosahatchee Estuary. The City recommends that, at a minimum, the Corps consider adopting the program outlined below to collect sufficient data for the hydrodynamic and eutrophication modeling tasks.

The Corps will first need to identify existing sampling stations that can be used to collect data from the Caloosahatchee Estuary. Of the above referenced sampling programs, the CES program has the most comprehensive spatial coverage of the Caloosahatchee Estuary. Sampling at seven stations (CES02 to CES08) from the Franklin Lock and Dam to Shell Point for the entire length (40 km) of the estuary should provide good spatial coverage (*see* Figure 11).¹² It is recommended that vertical samples at a 2-meter interval be taken at all 7 CES stations.

The Corps should sample for the following water quality constituents: temperature, pH, alkalinity, salinity, total dissolved solids, total suspended solids, CBOD, ammonia, nitrite, nitrate, organic nitrogen, total nitrogen, orthophosphate, organic phosphorus, total phosphorus, dissolved oxygen, algal chlorophyll *a*, and zooplankton. Water quality samples should be taken, at the minimum, twice a month for a continuous monitoring effort. The City also recommends the collection of sediment cores from the Caloosahatchee Estuary

¹² As of May 2002, the number of stations was reduced to four: one upstream of S-79 and three in the estuary. It is unclear whether the remaining three stations are simply not being used or if they are no longer available.

to analyze nutrient concentrations at several sites (selected from CES02 to CES08) biannually during the monitoring period. *In situ* sediment oxygen demands should also be measured at these sites.

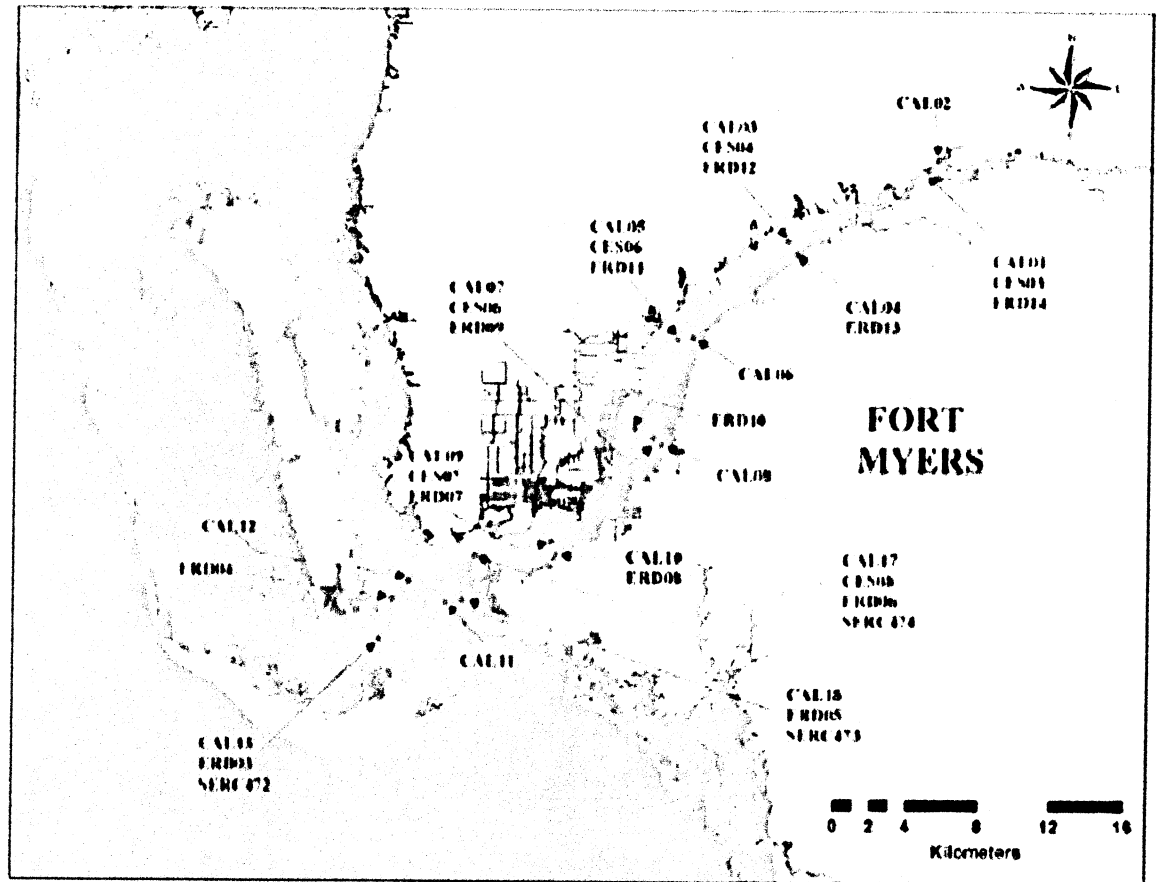


Figure 11. Sampling Stations CES02 to CES08 in the Caloosahatchee Estuary

3. Additional monitoring requests

In addition to the above suggested monitoring program, flow rate data at S-79 must be obtained from USGS for daily flows to be used in driving the hydrodynamic and eutrophication models. Additional studies (e.g., algal bioassay or primary productivity work) should be conducted to supplement the field monitoring effort.

C. Incorporate Relevant CERP Performance Measures into the LORSS

The current LORSS measures the performance of Lake schedule alternatives in the estuaries in terms of occurrences and duration of inflows from S-79. *See id.* at 87. These measures are insufficient to adequately assess the performance of the Lake schedules for the Caloosahatchee Estuary. This deficiency of the estuary performance analysis is evident when compared to the extensive analysis of Lake performance in the RDSEIS, which utilizes a combination of a number of CERP performance measures. Once the Corps has assembled three years of water quality data and developed a comprehensive water quality model for the Caloosahatchee Estuary, the agency will be able to expand the scope of its performance assessment for the LORSS with respect to the Estuary.

The RDSEIS has defended the use of performance measures related to freshwater flow occurrence and duration to evaluate the Lake schedule with respect to its impact on the Caloosahatchee Estuary. Yet when discussing the environmental effects of the Lake schedule on the Estuary, the RDSEIS repeatedly acknowledges limitations resulting from scientific uncertainty and insufficient data. *See, e.g., id.* at 146 (“[M]inimal information is known at this time about the salinity tolerance levels of the smalltooth sawfish and how salinity levels affect this species.”); *id.* at D-79 (“[T]here is a great deal of uncertainty regarding the effects of the freshwater releases from Lake Okeechobee on the Caloosahatchee Estuary.”) The Corps has suggested that the City’s requests for nutrient loading and sediment transport modeling were

outside the scope of the LORSS. *See id.* at H-13. As explained before, however, the omission of such modeling renders the RDSEIS analysis incomplete. Thus, the City reiterates its request that the Corps commit to incorporating a broader range of performance measures into the next LORSS in 2010. The following six CERP system-wide performance measures could be used for assessments of the Lake schedule in the Caloosahatchee Estuary:

- Northern Estuaries salinity;
- Northern Estuaries water quality;
- Northern Estuaries oyster habitat;
- Northern Estuaries benthic macroinvertebrates;
- Northern Estuaries submerged aquatic vegetation; and
- Northern Estuaries fish communities.

See CERP System-wide Performance Measure Report at 10-7 (June 2007).

Only by accumulating more data and incorporating more extensive modeling may the LORSS move beyond mere speculation and begin to assess the actual harms posed by the Lake schedule.

D. Incorporating Emergency Water Storage Availability into the LORSS

Perhaps the most effective option currently available for reducing or eliminating the impact of the Lake schedule on the Caloosahatchee Estuary is to provide emergency water storage as an alternative to high discharges into the Estuary. The City has two distinct requests regarding emergency water storage availability. First, the Lake schedule should be revised to incorporate the use of available emergency water storage and that this action not be delayed until the

next LORSS in 2010. Although the City believes that the Corps should incorporate operational guidance for releases into identified emergency storage areas before the TSP is finalized, at a minimum such guidance should be incorporated into the schedule as soon as the additional storage is available to come online. Second, the City requests the formation of stakeholder group to oversee a plan to identify additional water storage capacity for acquisition and to facilitate the incorporation of this storage into the Lake schedule.

1. Revise the Lake schedule

The RDSEIS nowhere explains why the 150,000 acre-feet of storage that has already been identified by SFWMD has not been incorporated into the Lake schedule. Nor does the Corps account for why the additional 300,000 acre-feet that are not yet ready to be used for storage cannot be incorporated into the Lake schedule now, for use when they become available.¹³ Using available emergency storage to divert high discharges from the Caloosahatchee Estuary would help mitigate the damage resulting from the Lake schedule. By incorporating additional water storage into the Lake schedule, the Corps also ensures that water is available for use in the EAA when needed, instead of wasting that water in the form of releases to tide. The need for such additional water storage has perhaps never been more evident than this summer, when Lake levels dropped below 9 feet, and water shortages were the norm throughout central and southern Florida.

¹³ Indeed, SFWMD has published a chart summarizing the properties that would be used to provide 450,000 acre-feet of storage, as well as when those properties are anticipated to be available for use.

The Corps need not complete a modeling analysis similar to the SFWMD analysis before incorporating additional storage into the TSP. While certain information required for optimal utilization of all 450,000 acre-feet of storage may not be known at this time, enough is known to develop general guidance for releases into storage. Releases into emergency storage could be authorized according to similar guidance as is applied to releases into the WCAs. In both instances there are external limits restricting the total amount of water that can be released. With the WCAs the limitations result from the limited capacity of the STAs to treat the water being released. With emergency storage the limitations result directly from the remaining available capacity of that storage at the time when the discharge is being considered. Releases into emergency storage could, for example, be authorized to the maximum extent practicable in order to avoid discharges of 4500 cfs or greater into the Caloosahatchee Estuary. If insufficient storage is available at that time then the water would instead be released into the Estuary, as governed by the Lake schedule.

2. Task Project Development Team with Oversight of Water Storage Acquisition and other Related Corps Projects

The failure of the TSP and RDSEIS to incorporate available emergency water storage necessitates the establishment of a stakeholder group to oversee this process. While the actual construction of water transport and storage structures is not contemplated under the LORSS, the availability of such structures directly impacts the Lake schedule, and thus, the estuaries that receive Lake releases. Many communities in the Northern Estuaries have a direct stake

in the effort to acquire additional emergency water storage capacity. As part of its mitigation for the harms inflicted by the Lake schedule, the Corps should involve these communities in this process.

The necessity of a community stakeholder group is demonstrated by the manner in which emergency water storage has been discussed in the RDSEIS. The RDSEIS should have established a goal for total storage capacity acquisition and a timeline for achieving that goal. Instead, while the RDSEIS applauds SFWMD's proposal to allow water storage on SFWMD public and private lands, it nonetheless fails to consider the inclusion of such storage in the Lake schedule except "for informational purposes only." *See id.* at 95. While acquiring additional water storage is essential to reducing the number and duration of high flows into the Northern Estuaries, the communities most impacted by these releases have no means to ensure that such acquisitions are prioritized.

The City therefore requests that the Corps use the framework of the existing Project Development Team ("PDT") to establish a stakeholder group to oversee progress in acquiring and utilizing additional emergency water storage capacity in the Lake schedule. The new stakeholder group could be composed of members of the PDT, which already includes representatives from some interested stakeholders in the region (Municipalities, counties, community groups, agricultural interests, etc.) and can be expanded to include relevant federal and state agencies (SFWMD, DEP, FWS, etc.). The City also requests that its own technical consultant, who has already undertaken a detailed

assessment of the LORSS, be included in the stakeholder group. This group should meet regularly over the course of the next three years, in order to ensure that the 450,000 acre-feet of storage identified by SFWMD are incorporated into the Lake schedule, and to oversee the search for, and acquisition of additional storage capacity for Lake releases.¹⁴

The stakeholder group should also be updated on the progress of other ongoing projects to increase storage and treatment capacity for Lake Okeechobee releases, and to provide input on the prioritization of projects that could bring relief to the Northern Estuaries.¹⁵ Implementation of the Lake schedule is inextricably linked to a number of other CERP projects. Perhaps the most obvious example of this linkage is the relationship between the Lake schedule and proposed repairs to the Herbert Hoover Dike, some of which are underway. The instability of the Dike clearly has direct repercussions on the timing and nature of Lake schedule releases. Discharges from Lake Okeechobee into the Estuaries are required to ensure that the integrity of the Dike is not threatened. Indeed, the Lake schedule has been designed with the express goal

¹⁴ The stakeholder group should also be updated on efforts to expand the treatment capabilities for water being discharged into the WCAs. As the RDSEIS notes, the STAs are currently equipped to treat an average of only 58,500 acre-feet during the dry season and 4,700 acre-feet during the wet season, far too little to effect a significant reduction in discharges to the Estuaries. The RDSEIS lists a number of projects being developed to store water from basin runoff and Lake releases, but does not discuss what, if anything, is being done to increase treatment capacity for releases into the WCAs.

¹⁵ The stakeholder group should receive regular reports from the Corps regarding current water quality conditions in the Caloosahatchee Estuary.

of avoiding Lake levels that exceed an elevation of 17.25 feet.¹⁶ The group should receive regular updates from the Corps on the progress of the Dike repairs, and how these repairs are anticipated to affect the Lake schedule. If, for example, repairs to the Dike enable the Corps to safely manage Lake Okeechobee at 17.5 feet instead of 17.25 feet, the Lake schedule could be adjusted to reduce discharges to the estuaries accordingly. Similarly, the group should be kept abreast of the Corps' progress in completing relevant Acceler8 projects such as the EAA Reservoir, the EAA STA Expansion, and the C-43 West Reservoir, all of which are anticipated to result in reductions in high discharges into the Caloosahatchee Estuary.

III. PROCEDURAL DEFICIENCIES OF THE RDSEIS

A. Quantifying Past Harms to Establish a Baseline

The City has requested that the Corps supplement its characterization of the affected environment by quantifying past impacts to the Caloosahatchee Estuary and determining its present conditions. As the City explained, this information is essential for establishing baseline conditions of the affected environment, which would then allow for accurate assessment of the No Action alternative and, in turn, informed analysis of the action alternatives. Put simply, establishing a baseline would allow the Corps to engage in the level of reasoned decision-making NEPA requires. Nevertheless, the Corps continues to rely on a

¹⁶ While the RDSEIS has never explained why the exact figure of 17.25 feet was selected as the performance measure for the alternatives, it is understood that Lake levels over 18 feet have the potential to threaten the integrity of the dike.

primarily qualitative overview of the affected environment in the RDSEIS, particularly for the Caloosahatchee Estuary.

1. Incorporating quantitative analysis of past harms

In response to the City's comments suggesting that the Draft SEIS' discussions of past harms were entirely qualitative, the Corps stated that "[q]uantitative and qualitative research was used to complete the EIS analysis." RDSEIS, Appx. H, at 13. Whether the Corps incorporated quantitative research into the EIS analysis is irrelevant if it failed to quantify the past harms to the Caloosahatchee. A review of the RDSEIS demonstrates that this is the case.

While the City acknowledges that Section 5 of the RDSEIS includes some additional detail about the conditions of the Caloosahatchee, this new information is still qualitative. The lack of quantitative analysis is significant in light of the Corps' recognition that "the timing, distribution, quality, and volume of freshwater entering the estuary from the watershed and Lake Okeechobee has resulted in negative ecological impacts." RDSEIS at 102. If the Corps does not first determine what portion of these negative ecological impacts are attributed to freshwater discharges from Lake Okeechobee, it cannot meaningfully evaluate the anticipated environmental effects of the LORS on the Estuary.

The absence of a quantified assessment of the prevailing conditions of the Caloosahatchee Estuary, including realized impacts attributed to past and present regulatory schedules and related deviations therefrom, significantly weakens the RDSEIS. This omission cannot be remedied by blanket generalizations about the effectiveness of the Preferred Alternative for the new LORS and the benefits it might bring to the Estuary. Such generalizations lack

the empirical analysis that NEPA requires and skew the evaluation of alternatives throughout the document. The City has already described with particularity the sort of analysis available to the Corps that should be incorporated into the ROD as an essential element of any mitigation and monitoring commitments. Here we briefly elaborate on the problems with the RDSEIS analysis for each of the stressors listed above.

a. Salinity

As the Corps has affirmed on several occasions, the ecological health of the Caloosahatchee Estuary is tied to maintaining an appropriate range of salinity conditions. The importance of salinity levels to estuarine biota led the City to request that the Corps quantify the temporal and spatial response of the Caloosahatchee's salinity to changing freshwater flows and use that analysis to assess the salinity impact of the proposed freshwater releases from Lake Okeechobee. The City has described a hydrodynamic model in Section II.A.1.a that has already been developed for the Caloosahatchee, which could easily be used to generate important data about potential impacts on regional water quality. The City again suggests that the Corps use this salinity modeling to support the RDSEIS' conclusions.

Rather than assessing existing conditions of the Estuary in a quantifiable manner, the Corps simply concludes that the Caloosahatchee watershed has seen much change over the past century due to an array of human-induced physiographical alterations, which have affected its ecology. RDSEIS at 102, D-63. It also acknowledges that both excessive and insufficient salinity levels fall outside of the tolerance range of many estuarine organisms, but fails to

quantify what this salinity range is. *Id.* at 87-88, D-63. In lieu of actual data, the Corps declares only that “flows between 450 cfs and 2800 cfs sustain an ecologically appropriate range of salinity conditions in the estuary” and sets this range as a performance measure for evaluation. *Id.* at 87-88. How do these broad conclusions explain the impacts of changing salinity levels on the estuaries or enable the Corps to assess the salinity impacts under the LORS alternatives in any meaningful way?

Instead of engaging in substantive analysis of the impacts of salinity fluctuations in the RDSEIS, the Corps downplays concerns that the estuaries might experience long term environmental harm from regulatory releases under the LORS:

In general, when regulatory releases are terminated, the salinity levels in these estuaries return to the normal range, and the ecosystems begin to recover. The estuarine species that were displaced or extirpated return or are replaced. The recovery period is commensurate with the rate and duration of the freshwater inputs to the estuaries.

RDSEIS at D-63. The Corps does not explain this remarkably sweeping conclusion, and it is uncertain what if any studies support it. As the City stated in its comments on the Draft SEIS, this superficial analysis raises far more questions than it answers.

First, what is meant by “in general”? Does the discussion apply to the Caloosahatchee and St. Lucie estuaries specifically, or just estuaries in general? Are there any studies or modeling results to support the Corps’ conclusions as to how the estuaries react to regulatory releases in general, or is this mere supposition? Furthermore, if salinity in the estuaries only generally returns to

the normal range, are there any known instances where this has not been the case? If so, what has happened in these atypical instances?

Second, the RDSEIS states that the ecosystems begin to recover when regulatory releases are terminated, but fails to discuss the consequences of frequent regulatory releases. RDSEIS at D-63. What happens when an estuary's recovery is disrupted by repeated additional regulatory releases? The Corps dismissed this question in the RDSEIS by stating: "The Preferred Alternative is based on a new water regulation schedule, and guideline tree. Regulatory releases to the estuaries are made in accordance with the estuaries guideline tree." *Id.* Appx. H at 13. That the LORS will be supported by a new regulation schedule and guideline tree is irrelevant to assessing the impact of disruptive regulatory releases on estuarine recovery period. The Corps' response only confirms that these disruptions will occur.

Third, the Corps asserts in the RDSEIS that, upon termination of regulatory releases, displaced estuarine species return or are replaced, again without any support or explanation. *Id.* at D-63. Has the return or replacement of species in the Caloosahatchee Estuary been documented in the wake of a regulatory release? How long does this replacement or return take? Is there data to suggest that species populations return to normal? If so, what population levels does the Corps consider to be normal?¹⁷ Moreover, the reliance on

¹⁷ The failure to establish a baseline for the Estuary has far-reaching ramifications for the RDSEIS. *See infra*, Section III.A.2. While the RDSEIS concludes that species populations will return to normal, this statement is meaningless unless "normal" is defined.

generalities in the RDSEIS ignores the specific threats posed to endangered species. While certain species with stable populations may be able to rebound from the damage caused by Lake releases, this is less likely to be the case with endangered or threatened species.

Fourth, and perhaps most significantly, the Corps continues to claim that the recovery period for the Estuary is commensurate with the rate and duration of the freshwater inputs. *Id.* This statement provides no detail to permit the City or any other interested party to understand anything about so called “recovery periods.” That recovery time could be commensurate with the duration of flow seems a reasonable and logical proposition, but that is not what the RDSEIS asserts. Is there an accepted equation or model for calculating recovery period in an estuary based on duration and rate of input? If this equation exists, does it only account for salinity based recovery, or does it also account for recovery from high inputs of nitrogen and phosphorous, or low oxygen concentrations? If the relationship between recovery time and the duration and rate of releases operates according to such a simple relationship, then it should not be difficult to model the long term impacts of the LORS alternatives on the estuaries. The Corps should clarify its statements regarding recovery time for the Caloosahatchee and St. Lucie, both by explaining what it means for the recovery time to be commensurate with the duration and rate of release, and by demonstrating how each alternative performs with respect to short and long term impacts on the estuaries. These issues go to the very

foundation of the RDSEIS conclusion of no adverse effect to the estuaries and deserve more than just the cursory treatment provided.

Any assessment of environmental impacts by the Corps must recognize the potential for the new Lake schedule to inflict long term damage on the Caloosahatchee and St. Lucie estuaries. Even if estuarine recovery time is commensurate with the duration and rate of release flows, such flows may still cause serious long term harm. Indeed, the Corps has consistently acknowledged that releases from Lake Okeechobee have significantly altered and adversely affected the estuaries. *Id.* at 102, D-62 to D-63. The City respectfully maintains that even where the RDSEIS discusses environmental impacts on the estuaries, the analysis is far too thin to demonstrate that the Corps has assessed and weighed the potential harms to the Caloosahatchee.

b. Sedimentation

The Corps' discussion of sedimentation in the Caloosahatchee Estuary further demonstrates the absence of quantified impacts in the RDSEIS. Although the Corps admits that impacts related to sediment loading represent one of the "longer-term effects of the regulatory releases from Lake Okeechobee on the St. Lucie and Caloosahatchee estuaries," it does not assess these impacts. *Id.* at D-63. Instead, without citing any supporting studies or modeling, the RDSEIS discounts the possibility of estuarine harm attributed to sedimentation from Lake Okeechobee releases by simply stating:

It appears that the sedimentation effects of the releases on the Caloosahatchee Estuary are less problematic than the nutrient effects of the releases, relative to the St. Lucie Estuary. Red tides (i.e., marine algae blooms) were consistently described during interviews as a more significant ecological and economic threat than freshwater releases from Lake Okeechobee.

RDSEIS at D-74. This explanation does not substitute for a quantified assessment of sedimentation impacts on the Caloosahatchee and St. Lucie estuaries, which is necessary to determine that the extent of the Lake schedule's potential adverse effect on the estuaries.

The discussion of the effects of sedimentation rests upon a number of faulty comparisons that appear to suggest that sedimentation has an insignificant environmental impact on the Caloosahatchee Estuary. First, the Corps asserts that in the Caloosahatchee, as opposed to the St. Lucie, nutrients have a greater environmental impact than sedimentation. *Id.* This does not mean that the effects of sedimentation on the Caloosahatchee are insignificant, only that they are less significant than in the St. Lucie. *Id.* Under NEPA, whether sedimentation causes more or less harm in the St. Lucie than in the Caloosahatchee is of no consequence. *See* 40 C.F.R. § 1502.16 (requiring a discussion of the environmental effects of the proposed action including direct and indirect effects and their significance). Therefore, why does the Corps not assess the environmental harm that sedimentation poses in both estuaries? Second, the RDSEIS notes that releases from Lake Okeechobee are only one of several sources that contribute nutrients to the Caloosahatchee. RDSEIS at D-74. How does the existence of other sources of estuarine *nutrients* impact the

presence of *sedimentation* in the Estuary or obviate the need for quantified assessments of both of these stressors?¹⁸

c. Collective impacts

In addition to the meager impacts analysis of the various estuarine stressors, the RDSEIS lacks sufficient analysis of how these stressors may interact to cause greater aggregate impacts to the Caloosahatchee and St. Lucie estuaries than any one of them would cause individually. Although the Corps concurs with the City's understanding that "various stressors on the Caloosahatchee Estuary (salinity, sedimentation, nutrient loading) may cause greater adverse effects collectively than individually," it has chosen not to consider these effects because "[t]he Corps does not regulate the amount of nutrient loading or sedimentation loading into the Caloosahatchee River/Estuary." *Id.* Appx. H at 14. Yet NEPA requires an agency to assess all significant direct impacts of its proposed action regardless of whether it has authority to regulate those impacts. 40 C.F.R. § 1508.8. The Corps' lack of authority to regulate nutrients and sedimentation does not eliminate the need to assess the cumulative impacts caused by these stressors as a result of the LORS.

2. Establishing baseline conditions of the Caloosahatchee

The failure to assess and quantify the current conditions of the Caloosahatchee and St. Lucie estuaries leaves the Corps without a baseline for evaluating the impacts of the proposed Lake schedule alternatives. While the

¹⁸ Indeed, NEPA specifically requires the Corps to assess such cumulative impacts. *See infra*, Section III.C.

City acknowledges and appreciates that the RDSEIS contains a somewhat expanded summary of the Caloosahatchee River basin's water quality, the discussion remains too sparse, disconnected, and qualitative to establish baseline conditions or allow for meaningful evaluation of the proposed action's impacts.

The expanded discussion of Caloosahatchee water quality begins with promise. The Corps first explains that the Caloosahatchee basin "is challenged by a variety of water quality problems, including altered salinity, elevated nutrients and increased sediment loading." *Id.* at 132. It then notes that a number of studies performed on the Caloosahatchee have established target concentrations for the nutrients chlorophyll *a* (20 ug/l), total nitrogen (1.0 mg/l), and total phosphorus (0.15 mg/l). *Id.* However, the Corps never explains whether these targets have been met or exceeded or provides any quantitative information about the actual nutrient concentrations in the Estuary. Instead of establishing this baseline, the RDSEIS relies on studies that compare the Caloosahatchee's nutrient concentrations, dissolved oxygen concentrations, turbidity, and total suspended solids to the levels of these respective stressors in other unidentified Florida estuaries to determine if the water quality of the Caloosahatchee is similar to those water bodies. *Id.* How do these comparisons contribute any baseline information about the Caloosahatchee or help the Corps analyze the impact of the LORS on the water quality of the Estuary? Likewise, how does the observation that releases from Lake Okeechobee contribute to the water quality problems of the Estuary but that they "are just a piece of the puzzle" provide information for evaluating the impacts of the Lake schedule on

the affected environment? *Id.* It is unremarkable that an estuary the size of the Caloosahatchee receives flow from different sources, each of which impacts estuarine water quality; it is remarkable, however, that this is used to avoid establishing a baseline to determine what impacts these sources will cause.

For the Corps to carry out the reasoned decision-making that NEPA contemplates, the SEIS must quantify current conditions of the Estuary to establish a baseline, and this baseline must play a role in the formulation of alternatives and selection of a Preferred Alternative. Otherwise, the Corps cannot properly compare the impacts of each action alternative to the No Action alternative. In addition, without knowledge of the baseline conditions for the action area, it is impossible for the Corps to “provide [a] full and fair discussion of significant environmental impacts” to inform decisionmakers and the public as NEPA requires. 40 C.F.R. § 1502.1. To address these shortfalls, the Corps should compile data on the current phosphorous, nitrogen, and salinity concentrations of the Estuary, the presence of harmful algal blooms, and the populations of indicator species to validate a baseline for comparison of alternatives. Absent this information, the SEIS will not comply with NEPA and will leave the public without any way to assess a Lake schedule that will result in potentially drastic and harmful impacts to the affected environment.

B. Assessing Environmental Impacts of the Action Alternatives

Like the Draft SEIS, the RDSEIS lacks the very analysis that should be the cornerstone of an environmental impact statement under NEPA – analysis of a reasonable range of alternatives and the potential environmental impacts of those alternatives on the affected environment.

1. Quantifying environmental impacts of alternatives

Appendix E of the RDSEIS contains a simulation of six alternative Lake schedules (including the No Action alternative) using the SFWMM. The simulated results are summarized for each alternative with respect to Lake Okeechobee, the Estuaries and Bays, the WCAs, the EAA, and Everglades National Park. RDSEIS at E-32 to E-41. When discussing these simulated results for Lake Okeechobee, the Corps notes that “consideration of a wide range of performance metrics including flood protection, lake ecology, and navigation” is required. *Id.* at E-32. When evaluating the impacts of the various LORS alternatives on Lake Okeechobee, therefore, the models must consider a wide range of factors to determine which alternative best achieves the stated goals of the project.

For example, the Corps utilized current RECOVER performance measures for Lake Okeechobee’s “extreme low lake stage,” “extreme high lake stage,” and “stage envelope” to evaluate how each alternative impacted the Lake’s ecology under various conditions. *Id.* at E-34. The RDSEIS explains that seasonably-variable water levels within the range of 12.5 and 15.5 feet have been demonstrated under the stage envelope performance measure to benefit the plant and animal communities of Lake Okeechobee. *Id.* While this discussion represents analysis to support an alternative that helps maintain Lake levels within the target range, similar analysis is entirely lacking for the Caloosahatchee Estuary.

On some level, the City cannot comment on the current modeling of the environmental impacts of each alternative Lake schedule on the Caloosahatchee

because the Corps has not done any. Instead, the Corps asserts that the duration of the high-flow releases reflected in each alternative is “of concern for protecting aquatic resources, including juvenile oysters.” RDSEIS at E-35. True enough. The Corps then explains that every action alternative produces “high flows of longer duration than the base.” *Id.* In fact, each new alternative represents a two- to three-fold increase over the No Action alternative of high flow events lasting longer than five weeks. *Id.* While the RDSEIS devotes a paragraph to comparing the substantially increased number and duration of high flow releases to the Caloosahatchee under each alternative Lake schedule to the WSE, this is only a predicate for substantive impacts analysis.

There remains a void where the Corps should discuss the effect that the proliferation of long duration, high volume discharges will have on the Caloosahatchee and whether they will aggravate impacts to the aquatic resources over which the Corps professes concern. This void is not filled by the Corps’ explanation that “[d]uring the critical period when many estuarine dependent species reproduce (March-June), the alternatives all show reductions in the number of mean monthly flows greater than 2800 cfs, compared to the base conditions.” *Id.* Although a reduction in high flow releases during the Estuary’s primary breeding months is certainly notable and an improvement over the DSEIS, it does not account for the impacts of these releases during the other months or consider the impacts to estuarine species from the 200-300% increase in long duration high flow releases throughout the year.

Rather than considering in sufficient detail the direct effects of the LORS alternatives on the Caloosahatchee Estuary, the Corps cites the “great deal of uncertainty regarding the effects of the freshwater releases from Lake Okeechobee on the Caloosahatchee Estuary” as a basis for excluding this crucial analysis from the RDSEIS. RDSEIS at D-79. NEPA does not sanction the presence of uncertainty to excuse the assessment of the direct effects of agency action. Thus, it is immaterial that “[e]stuarine ecosystems are complex, and the linkages between causes (e.g. ecosystem perturbations) and effects (e.g., changes in the structure or function of the ecosystem) are often unclear.” *Id.* Having presented the ecological and economic benefits that it claims the LORS will have on Lake Okeechobee, the Corps must do more than pay lip service to the effects that the alternatives will have on the Caloosahatchee Estuary. The Corps must assess and consider these direct effects in its SEIS.

2. Elements of an Adequate Quantitative Impacts Analysis

Under NEPA, the Corps should provide the same rigorous analysis of potential impacts for the Caloosahatchee and St. Lucie estuaries that it provided for Lake Okeechobee and the EAA. An analysis of the potential environmental harms that each of the alternatives will inflict on the estuaries should, at a minimum, include a quantitative assessment of the following:

- the impact on salinity levels;
- the impact on phosphorous and nitrogen concentrations;
- the impact on dissolved oxygen concentrations;

- the impact on turbidity and other factors affecting light transmissivity;
- the impact on sedimentation and sediment loading;
- the impact on seagrasses and other submerged aquatic vegetation (“SAV”) (onset and extent of mortality, each assessed in relation to the above listed stressors, and in relation to all the stressors combined); and
- the impact on overall estuarine ecology, or, at a minimum, the impact on certain keystone estuarine species.¹⁹

The extent to which the Corps continues to disregard the environmental impacts to the Caloosahatchee and St. Lucie estuaries creates a false comparison of the benefits and burdens of the alternatives, and more importantly, the Preferred Alternative. In the RDSEIS, a full suite of the alternatives’ benefits to Lake Okeechobee and the EAA receive quantified values, while the few effects to the estuaries that were considered remain improperly vague. By omitting this essential information from the RDSEIS, the Corps has left concerned communities along the estuaries with no criteria to distinguish among the LORS alternatives and deprived them of the opportunity to even consider whether any of these alternatives are better than the Lake schedule currently in place.

¹⁹ This information would help clarify whether the Corps has formulated a sufficient variety of alternatives in the first place. The Corps has acknowledged that while the alternatives it considered may reduce mean monthly high flow releases to the Caloosahatchee, they will dramatically increase the occurrence of long duration high flow releases. Although overlooked by the Corps, it therefore is likely that whichever alternative the Corps adopts will not achieve two of the stated goals of the LORS – improving the health of the Caloosahatchee Estuary and reducing high level flows. This suggests that the range of alternatives formulated by the Corps is too narrow. *See, infra*, Section III.E.

Moreover, the failure to assess the harms posed to the estuaries leaves the public with the misleading impression that the Preferred Alternative has no down side.

The Corps' analysis of environmental impacts of the proposed alternatives on the affected environment is superficial at best. Going forward it would be better for the Corps to (1) acknowledge now that it lacks relevant information regarding the impacts of the alternatives on the Caloosahatchee and (2) set forth a plan and timeline for acquiring this information. This would help the Corps comply with NEPA's implementing regulations, which provide:

If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.

40 C.F.R. § 1502.22(a). To date, the Corps has not acknowledged that it lacks relevant information regarding the environmental impacts of the alternatives on the Caloosahatchee or that the costs of obtaining this information would be "exorbitant." Implementing the City's suggestion would also allow the Corps to better prepare for the creating the 2010 schedule.

Since the City has already demonstrated that the impacts analysis for the Estuary is insufficient, if at a later date the Corps determines it cannot obtain the missing information on these environmental impacts, the SEIS still must include:

(1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant

adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

40 C.F.R. § 1502.22(b). The City believes that the information needed to fully and fairly assess the impacts to the estuaries is currently available to the Corps at reasonable cost. Various accepted scientific methods can be used to model such impacts, and, as discussed in Section II.B, the information and tools necessary to conduct this analysis have already been compiled for other CERP projects.

C. Analyzing Cumulative Impacts of the Proposal

As part of the NEPA process, action agencies are required to analyze the cumulative impacts of proposed federal actions in an environmental impact statement. *See* 40 C.F.R. § 1508.25(a)-(c). A “cumulative impact” is an “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” *Id.* § 1508.7. This requirement ensures that an agency does not examine the proposed action in a vacuum and instead considers how the proposal interacts with other existing and expected actions and environmental impacts. To achieve this level of review, the Corps must consider not only the project proposal itself, but also must account for “all connected and similar actions that could contribute to cumulative effects.” *Considering Cumulative Effects Under the National Environmental Policy Act* at 1, CEQ (Jan. 1997).

The importance of analyzing cumulative impacts is particularly great in the Everglades, where the LORS is just one part of a far broader plan to restore the health of a damaged ecosystem. The Corps has acknowledged that the

LORS will individually result in significant impacts to Lake Okeechobee, the WCAs, the EAA, the Caloosahatchee and St. Lucie estuaries, and South Florida communities that depend on the Lake for drinking water. While all of these regions also currently support a number of related projects collectively known as CERP projects, as well as other federal, state, and local actions, the Corps does not fully discuss the anticipated cumulative effects these projects and the LORS will have as they are developed and come online in the Everglades region. Admittedly, the RDSEIS now expands on the single paragraph on this topic included in the prior document by summarizing some of the primary non-CERP projects and refers readers to the CERP website for details on CERP projects expected to interact with the LORS to cause cumulative effects. RDSEIS at 172-175. Beyond these perfunctory descriptions and references, however, actual analysis of the cumulative effects is again overlooked in favor of broad unsupported conclusions about the alleged benefits that the affected environment will receive from the new Lake schedule. *See id.*

1. Assessing impacts of past, present, and future actions

The Corps' cursory attempt to analyze cumulative effects illustrates the deficiencies of the RDSEIS. The Corps apparently takes the questionable position that in three years, when it is time to put forward a new LORS, a number of CERP projects will be completed that will address many of the water shortage and surplus problems that currently afflict Lake Okeechobee. In the meantime, however, the LORS may cause substantial damage to the Caloosahatchee. The Corps cannot overlook these cumulative effects simply

because the proposal is an interim measure, nor may it do so when developing the more permanent Lake schedule for 2010.

CEQ regulations require an agency's EIS to consider actions that are connected, cumulative, and similar to the project proposal. 40 C.F.R. § 1508.25. In the RDSEIS, the Corps takes the important first step of acknowledging that "[t]here are many studies/projects identified for the central/southern portion of Florida, which may affect the study area in the future," but then fails to adequately assess how the Lake schedule will interact with these future projects or explain how this interaction will achieve the beneficial results promised. RDSEIS at 172. The RDSEIS also touches on some of the current related actions, such as the additional potential sources of pollution in the Caloosahatchee, but only in passing and not in the cumulative effects analysis itself.

For example, in the discussion of water quality in the Caloosahatchee River basin, the RDSEIS partially blames runoff from agricultural and urban development activities for the basin's degraded water quality. RDSEIS at 132. The Corps then mentions that "Lake Okeechobee water is extremely high in nutrient concentrations" and that freshwater discharges from the Lake contribute to the Caloosahatchee's elevated nutrient concentrations. *Id.* However, rather than aggregating the discharges from Lake Okeechobee with the discharges from the other regional sources to analyze the cumulative effects on the Estuary, the Corps merely downplays the Lake's role in contributing to the total

discharge. By doing so, the RDSEIS skips over the critical issue of the current cumulative effects on the Caloosahatchee's water quality.

The RDSEIS' failure to discuss cumulative effects has important ramifications. By proceeding in a piecemeal fashion with individual projects, and without ever analyzing the cumulative effects of these projects, the Corps avoids addressing significant obstacles to the restoration of the Everglades ecosystem. There is no analysis regarding the relief that other parts of the system can contribute to Lake health, public safety, and estuary health. There is no analysis detailing the use of temporary storage north of the Lake via temporary deviations from height limits to prevent water-related health and safety issues around the Lake. On the other hand, the only discussions of water storage on public and private lands, which is scheduled to begin in the next few months, and the Lake Okeechobee periodic managed recession are marginalized as "for informational purposes only" and not considered in any substantive fashion. *Id.* at 95-99. These important opportunities to reduce Lake elevations should be captured or, in some cases, re-captured under the RDSEIS. The Corps also should explain how future Lake elevation performance measures and external storage capacity may be affected by these projects coming online. Without any indication from the Corps as to how the schedule will interact with past, present, and reasonably foreseeable future actions, it is impossible for the City and other concerned parties to assess the merits of the proposed Lake schedule.

2. Following additional CEQ cumulative impacts guidance

CEQ has provided in-depth guidance regarding how an agency should evaluate the cumulative impacts of a proposed project.²⁰ This guidance identifies eleven steps that an agency should follow as part of its cumulative impacts analysis. CEQ divides these steps into three sections: Scoping, Describing the Affected Environment, and Determining the Environmental Consequences. The Corps' supplemental analysis of the cumulative impacts of the enumerated CERP and non-CERP actions still falls far short of the type of analysis that CEQ contemplates. For the Corps' cumulative impacts analysis to reasonably comport with CEQ's guidance, it should reflect the following steps:

a. Scoping

The action agency should first identify the significant cumulative effects issues associated with the proposed action and define the assessment goals. Compared to its scant cumulative effects analysis in the Draft SEIS, the Corps has made a modest effort to identify future actions likely to contribute to cumulative effects in the region. RDSEIS at 172-175. But the Corps' work on this front is unfinished, as it still has not identified past and present actions associated with the proposed LORS, such as the installation *and* operation of the SFWMD forward pumps. Next, the agency should establish the geographic scope and timeframe for analysis. Although the Corps recognizes that

²⁰ The following discussion references the CEQ handbook *Considering Cumulative Effects Under the National Environmental Policy Act* (Jan. 1997). This handbook, while not a legally binding document, indicates the degree of detailed analysis expected in a cumulative impacts analysis.

cumulative impacts include “past, present and reasonably foreseeable future actions,” its analysis throughout the RDSEIS focuses primarily on the 1965-2000 POR, which critically ignores the past five years – the same period that warranted revising the Lake schedule in the first place. Likewise, while the Corps repeatedly describes the proposed schedule as only an “intermediate” measure to be implemented until Phase 3 of the LORSS permits creation of a new schedule that incorporates additional storage available under CERP Band 1 Projects, it does not distinguish between future actions expected to occur during the lifespan of the currently proposed LORS and those that will not come online until after this schedule has been replaced. The failure to define the applicable timeframe skews the cumulative effects analysis in the RDSEIS by allowing the Corps to rely on beneficial effects of projects that will not be realized while the proposed LORS is in effect. Finally, the agency should identify other actions affecting the resources, ecosystems, and human communities of concern. As previously discussed, while the Corps accounts for a number of future planned projects in the region, it does not specifically consider past or present actions or adequately consider their ongoing effects on the action area.

b. Describing the affected environment

CEQ then recommends that the agency describe the affected environment. As a part of this description, the agency should “define a baseline condition for the resources, ecosystems, and human communities.” As discussed previously in Section III.A.2, the Corps has failed to establish the baseline conditions in the Caloosahatchee Estuary. This failure not only compromises the Corps’ evaluation of the alternatives; it also prevents the Corps

from assessing the cumulative impacts of the LORS on the affected environment.

c. Determining the environmental consequences

The Corps' cumulative effects analysis, like its general impacts analysis, stops short of determining the full range of environmental consequences of the proposed LORS on the Caloosahatchee Estuary. CEQ recommends that the action agency determine the magnitude and significance of cumulative effects on the affected environment, but as detailed above, the Corps has not yet identified all the significant cumulative effects, particularly those tied to past and present actions, let alone assessed their magnitude. CEQ's guidance then advises the agency to modify or add alternatives that "avoid, minimize, or mitigate significant cumulative effects." Completing this step is difficult without a full inventory of the significant cumulative effects anticipated from the proposed LORS, but the Corps, as discussed later, does not indicate how and when it will be able to complete this analysis. Together, these deficiencies in the cumulative effects analysis typify the procedural deficiencies found throughout the RDSEIS.

D. Assessing Impacts to Threatened and Endangered Species

The RDSEIS' discussion of impacts of the LORS alternatives on threatened and endangered species inhabiting the action area is not sufficient. While the Corps provides background information on the various threatened and endangered species in the Lake Okeechobee region and the habitats on which they depend, it mostly ignores what should be the focus of analysis – how the new LORS actually will impact these protected species and habitat.

The RDSEIS' discussion of impacts to threatened and endangered species is outdated and unnecessarily speculative. Much of the discussion merely mirrors information extracted from the 1999 FEIS. For example, the Corps appears to have cut and pasted a portion of the Fish and Wildlife Section of the 1999 FEIS (pp. 20-30) into the RDSEIS. As the City has previously explained, it is undisputed that the Caloosahatchee has experienced continued ecological decline under the WSE and was severely damaged by high flow releases during the 2003-2005 hurricane seasons, yet the Corps still ignores the damage that the WSE has wrought to the Estuary and its listed species. Unfortunately though, the RDSEIS' analytical shortcomings go beyond the lack of consideration of past harms; it fails to address in any quantitative manner how the proposed alternatives will impact endangered species in the future as well.

As with the Draft SEIS, what little analysis the Corps includes in the RDSEIS focuses almost exclusively on Lake Okeechobee itself, while in large part ignoring the Caloosahatchee Estuary. For example, the Corps briefly discusses how the 2000-2001 drought, and the 2004 and 2005 wet seasons impacted the endangered snail kite inhabiting Lake Okeechobee. RDSEIS at 116-117. By discussing how droughts and hurricanes impact the snail kite's food sources, its habitat, and subsequently its survival at the Lake, the RDSEIS helps to explain why it is important to keep the Lake water elevation from falling too low or rising too high. The Corps also analyzes how each new LORS alternative would be expected to impact snail kite populations in Lake Okeechobee. This analysis is notable because it provides actual quantitative

analysis and cites no less than five recent snail kite studies to support its conclusions. *Id.* at 142-44. Nothing in the RDSEIS approaches this level of analysis for the Caloosahatchee.

The discussion of the endangered smalltooth sawfish exemplifies the tendency to short change the Caloosahatchee. The analysis begins promisingly enough – it references previous and ongoing studies, which suggest that the smalltooth sawfish inhabits the Caloosahatchee Estuary, and specifically that juvenile sawfish depend upon such habitat for nursery areas. RDSEIS at 146. Noting that there is still much to learn about the sawfish, the Corps summarizes ongoing efforts to determine its range in Florida’s coastal waters and understand its physiology, particularly its salinity tolerance. *Id.* Yet, just when it appears the Corps will provide a measure of rigorous analysis similar to that provided the snail kite and Lake Okeechobee, it abruptly ends the discussion and makes the following conclusion: “Since minimal information is known at this time about the salinity tolerance levels of the smalltooth sawfish and how salinity levels affect this species, the Corps has determined that the proposed alternative regulation schedule would not likely adversely affect the sawfish.” *Id.* The only apparent explanation offered for this conclusion is that “[a] more stable salinity regime under the Preferred Alternative may result in increased SAV coverage, and therefore increase the population of small fish and benthic organisms, which are a food source for the sawfish.” *Id.*

The Corps provides no modeling to support this statement. Nor are any studies cited to suggest that this is anything more than the Corps’ own wishful

thinking. Nor does it account for the fact that nowhere else in the RDSEIS does the Corps conclude that the Preferred Alternative may increase SAV coverage or increase populations of small fish and benthic organisms in the Caloosahatchee. Nor does it explain how these alleged benefits will be realized under a Preferred Alternative that is projected to produce the exact same number of extreme high volume flows (>4500 cfs) as the current WSE topped off with a 132% increase in long duration high volume flows (>2800 cfs). *See id.* at 138.

The Corps has yet to perform even the basic steps to assess how the LORS will affect the smalltooth sawfish in the Caloosahatchee River and Estuary. The National Marine Fisheries Service (“NMFS”) has already acknowledged that releases from Lake Okeechobee have led to the deterioration of Charlotte Harbor, which is home to one of the “last remaining populations of smalltooth sawfish in U.S. waters.” *Draft Smalltooth Sawfish Recovery Plan* at I-21, NMFS/NOAA (August 2006). NMFS emphasized the need to “minimize or eliminate disruption of natural/historic freshwater flow regimes (including timing, distribution, quality, and quantity) and maintain or restore water quality to ensure the long-term viability of smalltooth sawfish” and its nursery habitat. *Id.* at III-4. NMFS’ findings, as set out in the Recovery Plan, suggest that the Corps’ endangered species analysis has given far too little attention to the smalltooth sawfish. This suggestion was confirmed on September 27, 2006 when NMFS determined that the Corps had not provided sufficient information to support its initial conclusion that the 2006 TSP “‘may affect’ but is not likely to adversely affect the sawfish.” DSEIS at 102. The Corps now states that it has

responded to NMFS' request for additional information "by addressing their comments within this EIS, and by separate cover letter," but as the City has shown, the endangered species impacts analysis is just as tenuous in the RDSEIS as it was in the Draft SEIS. It is therefore imperative that the Corps finalize consultation with NMFS prior to implementing the proposed LORS and commit to developing a working understanding of the protected species in the action area that the agency may refer to when proposing new iterations of the Lake schedule in the future.

Using the above example of the sawfish as a model, it may be helpful to generalize what is lacking from the Corps' assessment of endangered species impacts. In order for concerned parties such as the City to assess the risks the LORS poses to fish and wildlife in the Caloosahatchee Estuary, the Corps must at a minimum examine the following issues in detail:

- Have threatened and endangered species been impacted by the current WSE? And, if so, what about the WSE has caused the impact incurred?
- What about the Lake schedule can be changed to eliminate these impacts in the future? And, relatedly, how can the Lake be managed in a manner that will enhance protection of threatened and endangered species throughout the affected environment?

The RDSEIS fails to address any of these important issues. Having acknowledged that the Caloosahatchee Estuary provides habitat for a number of threatened and endangered species, the Corps devotes less than a single page to discussing how water flows under the proposed schedule will impact wildlife in

the Estuary. RDSEIS at 126. This discussion is even shorter than the description in the Draft SEIS. *See* DSEIS at 78.

The RDSEIS does not discuss, let alone draw any conclusions about, whether the current WSE has impacted threatened and endangered species in the Caloosahatchee. The Corps simply acknowledges that flows over 2800 cfs and 4500 cfs have been known to adversely affect important seagrasses and other organisms in the Estuary and San Carlos Bay. RDSEIS at 88. These conclusions address in the broadest terms the environmental impacts of the scheduled freshwater releases to the Caloosahatchee; they do not constitute sufficient analysis of a particular resource, such as endangered species. Too many fundamental questions remain:

- What are the organisms and seagrasses that are adversely affected by mean flows >2800 cfs?
- If flows of this magnitude adversely affect these organisms and seagrasses, do they also adversely affect the threatened and endangered species that prey upon these organisms and rely on the seagrasses for habitat and food?
- If flows of this magnitude adversely affect seagrasses and other organisms, what will flows of two and three times this magnitude (the flow levels contemplated under the proposed LORS) do to these organisms?
- How will the sharp increase in long duration flows >2800 cfs impact these seagrasses and organisms, not to mention the threatened and endangered species themselves?
- How will the seasonal timing of these flows impact these organisms?

With so many unanswered questions remaining about the impacts that the proposed Lake schedule will have on protected species, other wildlife and vegetation in the Caloosahatchee, it is hardly surprising that the Corps'

consideration of possible modifications it could make to the proposal to address these impacts is similarly deficient. Regrettably, the RDSEIS lacks basic information about the affected estuarine environment that is necessary for the Corps to consider alternatives to the current WSE that could benefit the Caloosahatchee Estuary, let alone evaluate modifications to offset impacts from the alternatives under consideration. This must change as the Corps proceeds to implement the LORS and begins formulating the future Phase 3 Lake schedule calendared for 2010.

E. Creating a Reasonable Range of Alternatives

In the “Project Purpose and Need” summarized in the RDSEIS, the Corps recognizes that the Caloosahatchee Estuary has continued to deteriorate under the current WSE and sets out to “improve the health of Lake Okeechobee and the St. Lucie and Caloosahatchee estuaries” in part through efforts to “[r]educe high regulatory releases to the estuaries.” RDSEIS at 7. This Purpose and Need statement is nearly identical to the statement found in the Draft SEIS, which the Corps withdrew in response to comments by the City and others asserting that none of the alternatives then under consideration would have reduced the quantity or duration of high flows to the Caloosahatchee Estuary. *See* DSEIS at 5; RDSEIS at 9. While the City applauds the Corps’ decision to withdraw the Draft SEIS and reformulate the LORS alternatives with an eye toward addressing the Caloosahatchee’s degraded condition, the new alternatives in the RDSEIS could go further to reach the stated goal of improving the Caloosahatchee’s health.

The Corps has provided three criteria to assess the performance of the alternative Lake schedules with regard to the Caloosahatchee Estuary: (1) the overall volume of releases; (2) the number of times high discharge criteria are exceeded; and (3) the duration of high flows. *See, e.g.*, RDSEIS at 138, E-35 to E-36, E-79 to E-80, E-90 to E-97. Under each of these three criteria, the alternatives considered by the Corps provide modest improvement to the No Action alternative, but in many cases simulation of the alternatives under the SFWMM suggests they will perform worse.

For the overall release volume criterion, the SFWMM simulation of the 36-year POR indicates that, compared to the No Action alternative (379,000 acre-feet/year), three of the new alternatives would increase the total volume of excess water released to the Caloosahatchee on the order of 21,000 to 41,000 acre-feet/year, while two alternatives would reduce the total volume by 4,000 and 10,000 acre-feet/year respectively. *Id.* at E-79 to E-80. In other words, the Corps considered just two alternatives capable of decreasing mean annual releases of water into the Estuary, and they are expected to result in just a 1-3% decrease under base. While obviously preferable to a net volume increase, such limited reductions are not a catalyst for change.

The SFWMM simulation of the second criterion, the frequency with which the alternatives exceed the 2800 cfs and 4500 cfs high discharge benchmarks for the Caloosahatchee Estuary, is also concerning. Under the No Action alternative, the Caloosahatchee would have experienced 74 mean monthly flows exceeding 2800 cfs and 29 flows exceeding 4500 cfs. RDSEIS at

E-90. By contrast, two of the alternatives considered by the Corps also resulted in 29 mean monthly flows exceeding 4500 cfs, including the Preferred Alternative, and the other three resulted in substantially more extreme high volume discharges than the base. *Id.* at E-90 to E-91.

The simulation of the LORS alternatives under the final criterion, duration of high flows, is even more telling. The No Action alternative again outperforms all of the action alternatives. Indeed, for the No Action alternative, the SFWMM projects 130% fewer long duration releases >4500 cfs than the next closest alternative. *Id.* at 138. Thus, the pattern of the Caloosahatchee bearing the brunt of the revised Lake schedule continues.

The City recognizes the difficulty of formulating any one alternative for the LORS that is capable of satisfying each of the apparently divergent goals announced in the RDSEIS. But that does not mean that the Corps may consider only alternatives that meet one of those goals to the exclusion of the others. The agency's duty to consider a reasonable range of alternatives entails evaluating the various means available for attaining the project goals. Thus, as the Corps begins to prepare for the 2010 changes to the regulation schedule, the City requests that a range of alternatives be considered that more fully address the project's purpose and need. The Corps' preparation should begin now with the enumeration in the 2007 LORS SEIS of the new information that it will need to accomplish this.

F. Addressing Excessive Agency Discretion

In previous years under the WSE, when the Corps determined it needed to release unscheduled flows down the Caloosahatchee River, it proposed temporary deviations from the WSE and supported the proposals with independent NEPA analyses. The Draft SEIS eliminated the need to seek these deviations from the Lake schedule by adopting NTOs, which amounted to tremendously broad discretion for Lake managers to adjust the timing, level and duration of releases however they wanted. DSEIS at 46. The City objected to such unconstrained discretion as contrary to NEPA's formula for reasoned decision-making, and the Corps subsequently abandoned the option of NTOs in the RDSEIS. While the City recognizes and appreciates the Corps' efforts to alleviate concerns about NTOs, it notes that similarly broad discretion persists in the RDSEIS in the form of the Corps' new "additional operational flexibility" and continued reliance on make-up releases. *See* RDSEIS at 81. The City again urges the Corps to remove these unnecessary discretionary measures to avoid subjecting itself to criticism from wary stakeholders concerned with the unknown consequences of unscheduled Lake releases.

1. Additional operational flexibility

Under the new policy of additional operational flexibility, the Corps gives itself room to "address circumstances (i.e., hydrologic conditions, lake levels, spawning in the estuaries, downstream runoff, etc.) that were not evaluated in the Preferred Alternative for the POR." *Id.* This flexibility empowers the Corps to make unscheduled Lake releases that have not been analyzed for their potential environmental effects. The Corps promises to obtain

scientific input from experts on estuarine, lake, and wetland ecology whenever conditions warrant such releases and commits to evaluating their environmental effects based on existing conditions in the ecosystem “as quantified” in the RDSEIS. *Id.* It also concludes, without explanation, that “these operations would have environmental effects similar to the effects [of the analyzed portion of the action], which are based on modeling simulations.” *Id.* Given that the Corps has yet to obtain the necessary scientific input to determine the baseline for the proposed action or assess the environmental effects of the traditional LORS on the Caloosahatchee, it is uncertain how the agency will be able to honor these commitments for new unscheduled releases. And given that the Corps has yet to analyze the environmental effects of these unscheduled releases, each of which it describes as “unique,” it is equally uncertain how the agency concludes that the releases will have effects similar to those associated with the scheduled releases that were modeled.

2. Make-up releases

The LORS also continues to authorize the Corps to engage in “make-up releases” from Lake Okeechobee. RDSEIS at 80. The City acknowledges that, although the Corps did not eliminate make-up releases to the Caloosahatchee altogether as Sanibel requested in comments on the Draft SEIS, it did expand the target of these releases to also include the WCAs, which should relieve the estuaries from shouldering this burden alone. Under this revised proposal, the Corps can compensate for scheduled releases that have been prevented or reduced due to downstream conditions. *Id.* Once these conditions are ameliorated, the Corps will be able to release the delayed flows, irrespective of

whether the LORS provides for them or whether they will exceed the release volume authorized under the schedule. *Id.*

In addition to authorizing the Corps to disregard the LORS' guidance, several other features of this proposal trouble the City. While the Corps states that it now plans to direct make-up releases to both the WCAs and the estuaries, it does not necessarily commit to do so. Rather, the RDSEIS reserves to Lake managers the discretion to conduct such releases to the estuaries "and/or to the WCAs" without explaining what factors will be used in this decision. *Id.* Of similar concern, the proposal states that make-up releases to the Caloosahatchee will "not exceed 2800 cfs measured at S-79 . . . when the lake level is below the Intermediate Sub-Band." *Id.* At first blush, this limitation seems to confine make-up releases to the optimal flow envelope for the Caloosahatchee that the Corps uses as a performance measure throughout the RDSEIS. On closer inspection though, it becomes clear that the 2800 cfs threshold only applies to the LORS' Low Sub-Band for Lake management and below. At the Intermediate and High Sub-Bands, for which the Corps is already authorized to conduct high flow freshwater releases to the Caloosahatchee at ecologically damaging levels, there is no restriction on the additional volume of make-up releases the Corps may conduct. Therefore, how can the Corps conclude that "[t]he environmental effects of this action are similar to those modeled, and would be no greater than those effects already discussed" for the modeled schedules?

G. Flawed Economics Analysis

The economics analysis in the RDSEIS again ignores the Caloosahatchee Estuary and its surrounding communities in favor of the Lake, the EAA, and the water needs of South Florida. In commenting on the Draft SEIS, the City thoroughly discussed this unbalanced consideration of economic effects associated with the LORS and requested supplementation of this analysis for the Caloosahatchee, but these comments went completely unaddressed in the RDSEIS. Because the RDSEIS still reflects an imbalanced economic analysis that ignores the City's previous substantive comments, the City briefly restates its comments here.

1. Tourism

The Corps observes that the Caloosahatchee is an important economic resource and that the South Florida coast where it is situated is a frequent tourist destination. RDSEIS at 102. Lee County alone has a booming \$2 billion tourism economy and its Tourist Development Council regularly publishes reports detailing tourists' impressions of area water quality. *See* <http://www.leevcb.com/meeting/minutes.php>. Nonetheless, the economic analysis mentions tourism at the Estuary just once, and then only to note that it will not be assessed. RDSEIS at D-64. While the LORS is likely to harm tourism in the Caloosahatchee Estuary, this impact is somehow deemed beyond the scope of the Corps' analysis. RDSEIS at D-64. By omitting any discussion of the considerable impact the LORS will have on tourism for the Caloosahatchee and Sanibel Island, the Corps has not adequately assessed socio-economic impacts as NEPA requires.

2. Fishing

Although it professes to consider the LORS' impact on fishing in the Caloosahatchee, the Corps has not undertaken this assessment. The RDSEIS presents data describing the state of the commercial and recreational fisheries in the Caloosahatchee, but the rest of the economic analysis follows the same pattern as the its environmental effects analysis. Broad and unsupported generalizations substitute for real analysis.

A series of tables in Appendix D summarize available data regarding the size and value of the catches for a variety of commercial fish species in the Caloosahatchee Estuary. *See* RDSEIS at D-73 to D-78. The approximate value of the guided sportfishing business in and around the Estuary is even calculated. *Id.* at D-77. But the data considered is incomplete, which skews this calculation. Specifically, the data only inventories catches between 1993 and 1997, thereby failing to assess how the fishery has been impacted by the current WSE and the hurricane seasons of 2003-2005 – the driving force behind the RDSEIS. *Id.* at D-75. Again, the Corps justifies the thin analysis in the RDSEIS on ecological uncertainties of the Caloosahatchee, and it again concludes that “positive impacts” are expected under each of the alternatives. *Id.* at D-81. How does the Corps reach this conclusion given its determination elsewhere in the RDSEIS that even the Preferred Alternative will not reduce high level Lake releases >4500 cfs and will significantly increase long duration high volume flows to the Caloosahatchee? *See* RDSEIS at 138.

The City acknowledges the Corps' preliminary assessment that a detailed economic analysis would be challenging and complicated. However, that does

not mean that it is “outside the scope of this investigation.” RDSEIS at D-80. The economic impact of the LORS on the Caloosahatchee should be central to the SEIS. Appendix D provides detailed economic modeling of the Lake schedule’s impacts on virtually every other region of the action area *except* the Caloosahatchee Estuary. *See* Draft SEIS, D-13-64. Because the revised Lake schedule continues to place the brunt of the burden on the Caloosahatchee Estuary, the Corps must fairly assess the extent of inevitable economic harms.

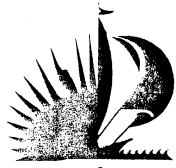
Thank you for your consideration of these comments. If you have any questions, you may contact our City Attorney, Ken Cuyler, at (239) 472-4359.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mick Denham', with a stylized flourish at the end.

Mick Denham, Mayor
City of Sanibel, Florida

Cc: Colonel Paul L. Grosskruger, USACE,
Jacksonville District Commander
Sanibel City Council
Kenneth B. Cuyler, City Attorney
Richard S. Davis, Esq.
Fred R. Wagner, Esq.
Judith A. Zimomra, City Manager
Dr. Rob Loflin, Natural Resources Director
Carol Wehle, Executive Director, SFWMD
Dr. Peter Doering, SFWMD
Dennis Duke, Everglades Division Chief, USACE
Pete Milam, Project Manager, USACE
Rob Jess, U.S. Fish and Wildlife
Erik Lindblad, Executive Director, SCCF



Venice of America

CITY OF
FORT LAUDERDALE

August 17, 2007

Ms. Yvonne Harberer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Re: Comments regarding the Revised Draft Supplemental Environmental Impact Statement:
Lake Okeechobee Regulation Schedule Study

Dear Ms. Harberer:

The City of Fort Lauderdale ("the City") is writing to provide comments on the August 2007 tentatively selected plan ("TSP" or "new TSP") for the Revised Draft Supplemental Environmental Impact Statement ("SEIS") for the Lake Okeechobee Regulation Schedule Study (LORSS).

The City's source of water is the Biscayne Aquifer but inflow from Lake Okeechobee is a backup source of water supply for the Lower East Coast ("LEC") in times of water shortage. It is critical that any modifications to the Lake schedule fairly balance the needs of the environment with the water needs of the LEC. The City is in the process of renewing its consumptive use permit and has been a central participant in an effort to develop regional water supply solutions for solving the challenges facing the LEC in meeting future demands.

The SEIS downplays the risk to water supply in terms of performance of the TSP and the corresponding economic impacts in times of drought. These risks are demonstrated by the increase in LEC water restrictions, the frequency of Minimum Flow and Level exceedances and violations for Lake Okeechobee, and the need to operate forward pumps to deliver water out of Lake Okeechobee when levels are low.

The City acknowledges, that unless and until more water storage projects are constructed, it will be difficult to achieve a balanced Regulation Schedule. This TSP is improved from the last TSP and also shows some measure of improvement over the current Water Supply and Environment ("WSE") Regulation Schedule, but much of that improvement in terms of water supply is directly impacted by the use of 2006 Lake Okeechobee Water Shortage Management ("LOWSM") Plan and these assumptions may still be a moving target. Since 2006 LOWSM has still not been adopted, the impacts to water supply are uncertain. This uncertainty is exacerbated by the lack of operational parameters associated with the additional lands for water storage. These issues make the impact of this TSP on water supply very vague.

Our key points regarding the new TSP are as follows:

- **Lower Lake elevations.** With any schedule that is going to reduce higher stages, there will be more times when the targets at the low end of the schedule cannot be met. This would have a negative effect on the availability of the regional system to supply water to the LEC.

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- **Schedule and commit to needed infrastructure.** Holding Lake elevations lower requires infrastructure to supply water for people and the environment. The permanent infrastructure to do that must be identified and constructed. The City and other municipalities are working together to investigate the use of the L-8 reservoir as a facility that can be used to store water that otherwise would be lost to tide. Will a lower Lake schedule create an adverse impact on the ability of this project to capture and store excess water that can be put to a beneficial use?
- **Update Timelines.** The implementation of this LORSS has been delayed and it is likely that the various Comprehensive Everglades Restoration Plan ("CERP") projects that will provide more water storage, thus taking pressure off of the Lake, will be delayed as well. The end result is that this "interim" schedule may be in place longer than 2010. The revised SEIS should accurately account for timeframes for the development of the "permanent" schedule.
- **Revision of water shortage triggers.** The City concurs in the use of the 2006 LOWSM and the other modeling updates, as the best available information to incorporate into the SEIS. But of concern, the July 2007 South Florida Water Management District ("SFWMD") Governing Board meeting included a significant discussion on the need for revisions to how the agency approaches drought management. It is clear from that discussion that the LOWSM and water shortage rules will be revisited and the effect on the TSP is unknown.
- **Clarify use of additional storage lands.** While the City understands that the goal is to first make releases to additional storage areas to minimize harmful flows, the specifics of the amount of land and the decision process to utilize those lands is unclear. We recognize that these are State actions as well, but the Corps should work with the SFWMD to address this decision process and clearly articulate what the benefits will be before the Final SEIS.

With the other problems of CERP water storage project delays, the delay in this TSP and potential revisions to the SFWMD water shortage triggers, it is clear that the "mitigation strategies" (such as storage on additional lands) need clarification before this SEIS is finalized and the new TSP is implemented. Clarifying and finalizing the SFWMD water shortage triggers and policy is also central to this effort of addressing these mitigation strategies. We appreciate the opportunity to provide these comments to you and we look forward to working with you on improving the next Draft of the LORSS SEIS.

Comments regarding the Revised Draft Supplemental Environmental Impact Statement: Lake Okeechobee Regulation Schedule, ("SEIS") June 2007.

General Comments:

- For the purposes of these comments, the terms tentatively selected plan ("TSP"), Alternative E and "T3" are the same alternative, which is the currently chosen plan presented in the SEIS.

Section 1.4, Page 7: We continue to support the agency goal (or objective) of achieving "optimal" lake levels and reduction of high regulatory releases to the estuaries. This regulation schedule (or tentatively selected plan "TSP") appears to better meet those goals and objectives than the last version of the TSP released last year.

Section 1.5, Pages 8-9: This section outlines Phase 1, 2 and 3 efforts to modify the Lake's regulation schedule. While the Corps is currently in the midst of Phase 2, it is clear that this effort has been delayed, largely due to drought management issues and reformulation of the August 2006 TSP, but work has been delayed in this effort. Phase 3 efforts, expected to begin in late 2007, are likely delayed as well. The SEIS should reflect updated timelines to accurately account for this "interim" schedule as well as the development of the "permanent" schedule to be completed under Phase 3.

Section 1.7, Page 11: Until more storage (significant storage) is brought on line, only minor improvements in the Lake's schedule can be achieved. Mindful of that concept, Phase efforts must be scheduled and based on real timelines that are affected by the authorization and funding of Comprehensive Everglades Restoration Plan ("CERP") projects and Acceler8 projects. While Band 1 of the Master Implementation Sequencing Plan ("MISP") may provide the best information on the projected schedules of these projects, the SEIS should reflect the reality that a permanent schedule by 2010 may not be achievable. See *a/so*, "Proposed Operational Guidance", Page A-7.

Revisions to Assumptions

Section 2.2, Page 16: The City concurs in the use of the 2006 Lake Okeechobee Water Shortage Management Plan ("LOWSM") and the other modeling updates, as the best available information to incorporate into the SEIS. But of concern, the July 2007 South Florida Water Management ("SFWMD") District Governing Board meeting included a significant discussion on the need for revisions to the agency's drought management policies and rules. It is clear from that discussion that the LOWSM and water shortage rules will be revisited. The timing of these changes, and the scheduling of modeling those effects in conjunction with this TSP, is unclear from the SEIS. Section 2.3 also acknowledges these potential rule revisions. The SEIS states, "Based on guidance from SFWMD, the 2006 draft LOWSM plan was not anticipated to undergo significant change prior to the approval by the SFWMD Governing Board later in 2007". The fact is, that may no longer be the case and the effect on the current TSP will be unknown. See *a/so*, "Lake Okeechobee Management Bands, Water Shortage Management Band", Page A-8-9.

Section 2.3, Page 17: The 2006 alternatives were based on a 1.0' lowering of the Supply Side Management line ("SSM") while the 2006 LOWSM plan utilizes a lowering of the "trigger line" by 0.8'. There are significant differences in the performance of the alternatives due to the placement of this trigger line. While the 2006 LOWSM line is probably a more accurate depiction of where the ultimate trigger line may be, again, there is still some level of uncertainty surrounding the elevation of the line and what the effect may be. The Corps and SFWMD should use every effort to finalize the LOWSM plan, model its effects in the context of the TSP and incorporate those results into the Final SEIS.

Section 2.5, Page 21: This section should be updated based upon the fact that the temporary forward pumps have been constructed and the SFWMD is no longer "proposing" these structures. The section should also describe the status of the permanent forward pumps and

what changes, benefits, impacts or differences may occur due to their use in the context of the TSP.

Section 3.4, Page 80: The section on "Make-Up Releases" needs to be expanded. The section describes the operation as allowing for releases to be "made up" for water that couldn't be moved out of the Lake due to high water elevations in the water conservation areas ("WCAs"), stormwater treatment area ("STA") capacity limitations and conveyance limitations in the Everglades Agricultural Area ("EAA"). The targeted releases limited due to these constraints can later be "made up" from Lake Okeechobee "as soon as possible" and "may occur when Parts C and D do not allow releases or prescribe lower volume releases". The use of "Make-Up Releases" needs clarification. See also, Page A-12.

Section 3.6, Page 81: Many stakeholders were concerned, in relation to the last TSP, that the most recent 2001-2005 weather conditions had not been considered. Section 3.6 describes the Corps' efforts to include some level of analysis (Lake Okeechobee Operations Screening Model "LOOPS"), in the development of this TSP, to include those years which had an unusual hurricane season and drought events. See also, Section 4.2.

The Section also describes "additional operational flexibility" used to address circumstances not evaluated as part of the SEIS. This "additional operational flexibility" presumably replaces the previous "Non-Typical Operations" ("NTO") concept in the previous SEIS. The City understands the need for additional operational flexibility to address unforeseen conditions and this is important to allocate burdens and benefits to the natural system equitably. The Section concludes with a discussion on public notification of these operations. The City's only comment is that all interested parties should be involved in implementing these procedures before they are "noticed" of the decision. Experience has shown with the previous TSP that public involvement in these types of decisions can result in a better effect on the environment overall. See also, Page A-13.

Section 4.3.2, Page 87: It is the City's understanding that hydrological model output assumes maximum practicable releases from Lake Okeechobee within each decision tree band, with consideration of downstream operational constraints and that this maximum releases are not always implemented. Essentially, this paints a "worst case scenario". It would be helpful for this section to be expanded to describe how conservative the performance evaluations have been in the past to understand the conservative nature of this effect.

Section 4.4, Page 94: The SEIS acknowledges that modification of water shortage rules is important as the Preferred Alternative model run projects lower Lake levels more often than the existing WSE schedule. This results in more Lake Okeechobee Minimum Flow and Level ("MFL") violations and the need for water shortage rule revisions that address this issue. This makes our previous comments regarding the July SFWMD Governing Board discussion, in the context of water shortage rule revisions and the use of 2006 LOWSM, all the more important.

Additionally, analyzing the current TSP in the context of current water shortage triggers ("WST") against 2006 LOWSM for performance is helpful to understand the importance that these triggers have on environmental and water supply performance. Any additional changes in the water shortage rules or triggers (or revisions to 2006 LOWSM) must be considered in the Final SEIS. See also, Section 5.8.

Additional Storage Areas

Section 3.2, Page 75: This section makes the statement, "When the Operational Guidance and/or basin conditions between Lake Okeechobee and the estuaries result in flows deemed undesirable by SFWMD to the estuaries, the SFWMD may seek to storage Lake Okeechobee water on available SFWMD designated lands." The City also understands that this Operational Guidance is not incorporated into any alternative analysis and that performance of the TSP can likely be enhanced by this operation. While the City understands that the goal is to first make releases to alternative storage areas to minimize harmful flows, the specifics of the amount of land, the location of those lands, and the decision process to utilize those lands is unclear. We recognize that these are State actions as well, and presumably outside the scope of this review, but the Corps should work with the SFWMD to address this decision process and clearly articulate what the benefits will be before the Final SEIS.

Section 3.3, Page 76: In the description on the "Water Shortage Management Band", the document states that draft Water Shortage Management Band elevations may change upon completion of SFWMD's rulemaking process in 2007." As stated above, the rulemaking process may be more expansive than originally contemplated and the SFWMD and Corps should work to ensure that all of this analysis is complete before the Final SEIS.

Section 4.5, Pages 95-99: This Section describes the use of SFWMD lands for additional water storage as a precursor to higher volume discharges thus minimizing impacts to downstream receiving waters. As stated, the City understands that this is one of the "additional considerations" that exists which can further improve performance of the TSP, this is a non-Federal action, and that the modeling of the alternatives does not consider these lands or operations. While many of the following questions should be answered by the SFWMD, it is important that these operations are more clearly articulated in this SEIS process so that stakeholders can formulate a better opinion as to the importance of this additional storage to success of this TSP. From a modeling perspective many of the assumptions make sense such as the lands are actually available with all infrastructure, local basin runoff considerations, and the storage is utilized before releases are made. Remaining questions persist, for instance:

- What lands (and how much) have been identified/committed for this storage?
- Where are these lands located?
- How much infrastructure and/or expense is necessary to make these lands available for storage?
- How soon can the storage be brought on line as modeled?
- Is the SFWMD going to use 150,000 acre-feet of storage, 450,000 acre-feet of storage or somewhere in between?

Further analysis on the optimal operations (and the timing or use of that storage) for these additional water storage area is necessary to determine when that storage should be utilized and what the water quality impacts may be; these are simply to be "defined in the future".

Water Supply Discussion

Section 6.12.1, Page 164: Table 6-13 summarizes the water supply performance of the TSP in relation to the current WST and the 2006 LOWSM. Table 6-13 also clearly shows that the impact of the TSP is lessened with the 2006 LOWSM triggers over the existing WSTs. As previously stated, an important aspect of this analysis is the efficacy of using the 2006 LOWSM assumptions if they are subject to change before the TSP is implemented. See also, Page E-17.

Section 6.12.1, Page 165: Demands not met in the LEC Service Area show no change in the amount of water shortage cutbacks between the No-Action and the TSP, but those water shortages increase when the current WSTs are in place. Use of new water shortage triggers is very important to offset impacts from a lower Lake schedule.

Section 6.12.1, Page 167: Table 6-15 shows the "Value of Unmet Demands" for municipal and industrial water supply. The TSP performs better over the existing WSE schedule, but does not perform as well as the previous TSP. This effect, exacerbated by potential changes in the 2006 LOWSM and SFWMD Water Shortage rules, creates a significant amount of uncertainty regarding impact of the proposed TSP to water supply. These issues must be resolved before the Final SEIS. See also, Table 3-2, Appendix D and Page E-41..

Appendix D, D-30: Table 3-1, "Recommendations of the Draft Lower East Coast Water Supply Master Plan ("LECWSP)" should be updated to those Recommendations contained in the 2006 Update to the LECWSP, not the 2000 version.

Appendix E, Page E-33: "All alternatives demonstrate a trend to reduce lake stages by approximately 1.0 to 1.3' under normal to wet conditions." Extreme low stages are reduced from 9.46' in the No-Action alternative to 8.71' for the tentatively selected plan. Again, this effect, exacerbated by potential changes in the 2006 LOWSM and SFWMD Water Shortage rules creates a significant amount of uncertainty regarding impact of the proposed TSP to water supply.

Appendix E, Page 43: The TSP shows one more month of cutbacks for the LEC Service Areas 1 and 2. While this impact may not seem significant, due to the uncertainty surrounding 2006 LOWSM and the SFWMD's Drought policy and rules, "all alternatives showing a reduced availability of Lake Okeechobee water for Lower East Coast water supply needs during extreme dry conditions" is of concern. This reduction, coupled with the Regional Water Availability Rule's effect, creates more uncertainty for water supply. These issues must be addressed, to the extent that they can, before the Final SEIS.

Ms. Yvonne Harberer
August 17, 2007
Page 7 of 7

Appendix E, Page 44-45: Without LOWSM, cutbacks increase by 10 months for the LEC Service Area 1 and 7 months for LEC Service Area 2. The SEIS states, "The final SFWMD efforts [to address modifications to same] are anticipated to be completed prior to implementation of any new regulatory schedule for Lake Okeechobee and the efforts will be able to consider the additional data provided from the 2007 LORSS SEIS Plan." The SEIS does not state that this will be publicly reviewed before the SEIS is finalized, please address any changes to 2006 LOWSM before the Final SEIS.

Should you have any questions, please call Maurice Tobon, Environmental Services Manager, 954-828-7807 or me at 954-828-5290.

Sincerely,

A handwritten signature in black ink, appearing to read "Albert J. Carbon III". The signature is fluid and cursive, with the last name "Carbon" being more prominent.

Albert J. Carbon III, P.E.,
Public Works Director

c: Pete Milam, USACE
Maurice Tobon
Julie Leonard

WATER DISTRICTS

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General Manager
DWIGHT R. GRAYDON

August 17, 2007

U.S. Army Corps of Engineers
Attn: Yvonne Haberer
701 San Marco Blvd.
Jacksonville, FL 32207-8175

Subject: Lake Okeechobee Regulation Schedule Study

Gentlemen:

The Pelican Lake Water Control District is a local water control district organized pursuant to Chapter 298, Florida Statutes, and is responsible for flood protection and water supply to 5,980 acres of predominantly agricultural lands on the southeast side of Lake Okeechobee. In carrying out its water supply responsibility, the District relies on Lake Okeechobee water to meet its agricultural needs.

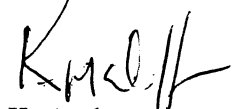
The District has serious concerns about the proposed Lake Okeechobee Regulation Schedule as contained in the Corps of Engineers July 2007 revised Draft Supplemental EIS. In attempting to balance the needs of the entire Lake Okeechobee system that includes agricultural interests south of the lake, the schedule reduces the annual volume of water stored in the lake for water supply to dangerously low levels. Agricultural water supply is an authorized use of Lake Okeechobee water and should not be diminished in the proposed attempt to balance the needs of the system.

The District understands the Corps' concern about pursuing the repair of the Herbert Hoover Levee and appreciates the caution needed during high water events. However, a change in the lake's operation schedule is not necessary to implement Phase 1 of the levee rehabilitation project. We encourage the Corps to not adopt the proposed alternative described in the July, 2007 draft SEIS.

We appreciate the opportunity to comment on the proposed regulation schedule and hope that the Corps will continue its long-standing commitment to provide supplemental irrigation water from Lake Okeechobee to meet the needs of one of the country's most productive agricultural regions.

Very truly yours,

PELICAN LAKE WATER CONTROL DISTRICT


Kenneth McDuffie
Supervisor

FS/DRG/HS/dw/ss

cc: Pete Milam, USACE, Jacksonville, FL

PLWCD\Correspondence 2007\U.S. Army Corps of Engineers_Lake Okeechobee Regulation Schedule Study_08172007.doc

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August 17, 2007

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Subject: Lake Okeechobee Regulation Schedule Study

Gentlemen:

The South Shore Drainage District is a local water control district organized pursuant to Chapter 298, Florida Statutes, and is responsible for flood protection and water supply to 5,062 acres of predominantly agricultural lands on the southeast side of Lake Okeechobee. In carrying out its water supply responsibility, the District relies on Lake Okeechobee water to meet its agricultural needs.


The District has serious concerns about the proposed Lake Okeechobee Regulation Schedule as contained in the Corps of Engineers July 2007 revised Draft Supplemental EIS. In attempting to balance the needs of the entire Lake Okeechobee system that includes agricultural interests south of the lake, the schedule reduces the annual volume of water stored in the lake for water supply to dangerously low levels. Agricultural water supply is an authorized use of Lake Okeechobee water and should not be diminished in the proposed attempt to balance the needs of the system.

The District understands the Corps' concern about pursuing the repair of the Herbert Hoover Levee and appreciates the caution needed during high water events. However, a change in the lake's operation schedule is not necessary to implement Phase 1 of the levee rehabilitation project. We encourage the Corps to not adopt the proposed alternative described in the July, 2007 draft SEIS.

We appreciate the opportunity to comment on the proposed regulation schedule and hope that the Corps will continue its long-standing commitment to provide supplemental irrigation water from Lake Okeechobee to meet the needs of one of the country's most productive agricultural regions.

Very truly yours,

SOUTH SHORE DRAINAGE DISTRICT



**Kenneth McDuffie
Supervisor**

FS/DRG/HS/dw/ss

cc: Pete Milam, USACE, Jacksonville, FL

SSDD\Correspondence 2007\U.S. Army Corps of Engineers_Lake Okeechobee Regulation Schedule Study_08172007.doc

EAST SHORE WATER CONTROL DISTRICT

2832 N. MAIN STREET

P. O. Box 896

BELLE GLADE, FLORIDA 33430

Supervisors

**GENE DODGEN
KENNETH MCDUFFIE
JEFF DAVIS**

**PHONE: (561) 996-2940
FAX: (561) 996-2960**

**General Manager
DWIGHT R. GRAYDON**

August 17, 2007

U.S. Army Corps of Engineers
Attn: Yvonne Haberer
701 San Marco Blvd.
Jacksonville, FL 32207-8175

Subject: Lake Okeechobee Regulation Schedule Study

Gentlemen:

The East Shore Water Control District is a local water control district organized pursuant to Chapter 298, Florida Statutes, and is responsible for flood protection and water supply to 7,979 acres of predominantly agricultural lands on the southeast side of Lake Okeechobee. In carrying out its water supply responsibility, the District relies on Lake Okeechobee water to meet its agricultural needs.


The District has serious concerns about the proposed Lake Okeechobee Regulation Schedule as contained in the Corps of Engineers July 2007 revised Draft Supplemental EIS. In attempting to balance the needs of the entire Lake Okeechobee system that includes agricultural interests south of the lake, the schedule reduces the annual volume of water stored in the lake for water supply to dangerously low levels. Agricultural water supply is an authorized use of Lake Okeechobee water and should not be diminished in the proposed attempt to balance the needs of the system.

The District understands the Corps' concern about pursuing the repair of the Herbert Hoover Levee and appreciates the caution needed during high water events. However, a change in the lake's operation schedule is not necessary to implement Phase 1 of the levee rehabilitation project. We encourage the Corps to not adopt the proposed alternative described in the July, 2007 draft SEIS.

We appreciate the opportunity to comment on the proposed regulation schedule and hope that the Corps will continue its long-standing commitment to provide supplemental irrigation water from Lake Okeechobee to meet the needs of one of the country's most productive agricultural regions.

Very truly yours,

EAST SHORE WATER CONTROL DISTRICT


Kenneth McDuffie
Supervisor

FS/DRG/HS/dw/ss

cc: Pete Milam, USACE, Jacksonville, FL
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PAHOKEE WATER CONTROL DISTRICT

2832 N. MAIN STREET

P. O. BOX 896

BELLE GLADE, FLORIDA 33430

Supervisors

KENNETH MCDUFFIE
MODESTO ULLOA
JEFF DAVIS

PHONE: (561) 996-2940
FAX: (561) 996-2960

General Manager
DWIGHT R. GRAYDON

August 17, 2007

U.S. Army Corps of Engineers
Attn: Yvonne Haberer
701 San Marco Blvd.
Jacksonville, FL 32207-8175

Subject: Lake Okeechobee Regulation Schedule Study

Gentlemen:

The Pahokee Water Control District is a local water control district organized pursuant to Chapter 298, Florida Statutes, and is responsible for flood protection and water supply to 14,941 acres of predominantly agricultural lands on the southeast side of Lake Okeechobee. In carrying out its water supply responsibility, the District relies on Lake Okeechobee water to meet its agricultural needs.

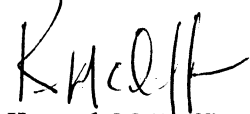
The District has serious concerns about the proposed Lake Okeechobee Regulation Schedule as contained in the Corps of Engineers July 2007 revised Draft Supplemental EIS. In attempting to balance the needs of the entire Lake Okeechobee system that includes agricultural interests south of the lake, the schedule reduces the annual volume of water stored in the lake for water supply to dangerously low levels. Agricultural water supply is an authorized use of Lake Okeechobee water and should not be diminished in the proposed attempt to balance the needs of the system.

The District understands the Corps' concern about pursuing the repair of the Herbert Hoover Levee and appreciates the caution needed during high water events. However, a change in the lake's operation schedule is not necessary to implement Phase 1 of the levee rehabilitation project. We encourage the Corps to not adopt the proposed alternative described in the July, 2007 draft SEIS.

We appreciate the opportunity to comment on the proposed regulation schedule and hope that the Corps will continue its long-standing commitment to provide supplemental irrigation water from Lake Okeechobee to meet the needs of one of the country's most productive agricultural regions.

Very truly yours,

PAHOKEE WATER CONTROL DISTRICT


Kenneth McDuffie
President

FS/DRG/HS/dw/ss

cc: Pete Milam, USACE, Jacksonville, FL
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SOUTH FLORIDA CONSERVANCY DISTRICT

**2832 NORTH MAIN STREET
P. O. Box 896
Belle Glade, Florida 33430**

Supervisors

FRITZ STEIN, JR.
KENNETH McDUFFIE
RICHARD H. BURNS, JR.

PHONE: (561) 996-2940
FAX: (561) 996-2960

General Manager
DWIGHT R. GRAYDON

August 17, 2007

**U.S. Army Corps of Engineers
Attn: Yvonne Haberer
701 San Marco Blvd.
Jacksonville, FL 32207-8175**

Subject: Lake Okeechobee Regulation Schedule Study

Gentlemen:

The South Florida Conservancy District is a local water control district organized pursuant to Chapter 298, Florida Statutes, and is responsible for flood protection and water supply to 34,500 acres of predominantly agricultural lands on the southeast side of Lake Okeechobee. In carrying out its water supply responsibility, the District relies on Lake Okeechobee water to meet its agricultural needs.

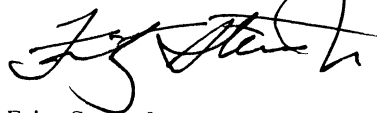
The District has serious concerns about the proposed Lake Okeechobee Regulation Schedule as contained in the Corps of Engineers July 2007 revised Draft Supplemental EIS. In attempting to balance the needs of the entire Lake Okeechobee system that includes agricultural interests south of the lake, the schedule reduces the annual volume of water stored in the lake for water supply to dangerously low levels. Agricultural water supply is an authorized use of Lake Okeechobee water and should not be diminished in the proposed attempt to balance the needs of the system.

The District understands the Corps' concern about pursuing the repair of the Herbert Hoover Levee and appreciates the caution needed during high water events. However, a change in the lake's operation schedule is not necessary to implement Phase 1 of the levee rehabilitation project. We encourage the Corps to not adopt the proposed alternative described in the July, 2007 draft SEIS.

We appreciate the opportunity to comment on the proposed regulation schedule and hope that the Corps will continue its long-standing commitment to provide supplemental irrigation water from Lake Okeechobee to meet the needs of one of the country's most productive agricultural regions.

Very truly yours,

SOUTH FLORIDA CONSERVANCY DISTRICT



Fritz Stein, Jr.
Chairman

FS/DRG/HS/dw/ss

cc: Pete Milam, USACE, Jacksonville, FL

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EAST BEACH WATER CONTROL DISTRICT

2832 N. MAIN STREET

P. O. Box 896

BELLE GLADE, FLORIDA 33430

Supervisors

ROGER HATTON
DAVID SIMONSON
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General Manager
DWIGHT R. GRAYDON

August 17, 2007

U.S. Army Corps of Engineers
Attn: Yvonne Haberer
701 San Marco Blvd.
Jacksonville, FL 32207-8175

Subject: Lake Okeechobee Regulation Schedule Study

Gentlemen:

The East Beach Water Control District is a local water control district organized pursuant to Chapter 298, Florida Statutes, and is responsible for flood protection and water supply to 7,086 acres of predominantly agricultural lands on the southeast side of Lake Okeechobee. In carrying out its water supply responsibility, the District relies on Lake Okeechobee water to meet its agricultural needs.

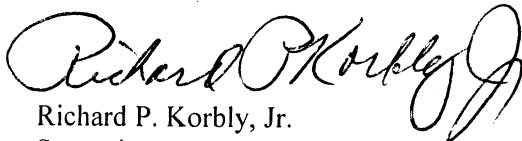
The District has serious concerns about the proposed Lake Okeechobee Regulation Schedule as contained in the Corps of Engineers July 2007 revised Draft Supplemental EIS. In attempting to balance the needs of the entire Lake Okeechobee system that includes agricultural interests south of the lake, the schedule reduces the annual volume of water stored in the lake for water supply to dangerously low levels. Agricultural water supply is an authorized use of Lake Okeechobee water and should not be diminished in the proposed attempt to balance the needs of the system.

The District understands the Corps' concern about pursuing the repair of the Herbert Hoover Levee and appreciates the caution needed during high water events. However, a change in the lake's operation schedule is not necessary to implement Phase 1 of the levee rehabilitation project. We encourage the Corps to not adopt the proposed alternative described in the July, 2007 draft SEIS.

We appreciate the opportunity to comment on the proposed regulation schedule and hope that the Corps will continue its long-standing commitment to provide supplemental irrigation water from Lake Okeechobee to meet the needs of one of the country's most productive agricultural regions.

Very truly yours,

EAST BEACH WATER CONTROL DISTRICT



Richard P. Korbly, Jr.
Supervisor

FS/DRG/HS/dw/ss

cc: Pete Milam, USACE, Jacksonville, FL

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CLEWISTON DRAINAGE DISTRICT
2832 N. MAIN STREET
P. O. BOX 896
BELLE GLADE, FLORIDA 33430

Supervisors

JAMES L. PITTMAN
CARL BERNER
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General Manager
DWIGHT R. GRAYDON

August 17, 2007

U.S. Army Corps of Engineers
Attn: Yvonne Haberer
701 San Marco Blvd.
Jacksonville, FL 32207-8175

Subject: Lake Okeechobee Regulation Schedule Study

Gentlemen:

The Clewiston Drainage District is a local water control district organized pursuant to Chapter 298, Florida Statutes, and is responsible for flood protection and water supply to 2,112 acres of predominantly agricultural lands on the south side of Lake Okeechobee. In carrying out its water supply responsibility, the District relies on Lake Okeechobee water to meet its agricultural needs.

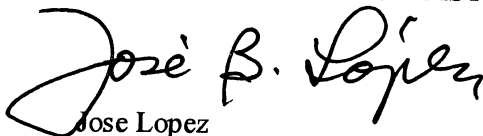
The District has serious concerns about the proposed Lake Okeechobee Regulation Schedule as contained in the Corps of Engineers July 2007 revised Draft Supplemental EIS. In attempting to balance the needs of the entire Lake Okeechobee system that includes agricultural interests south of the lake, the schedule reduces the annual volume of water stored in the lake for water supply to dangerously low levels. Agricultural water supply is an authorized use of Lake Okeechobee water and should not be diminished in the proposed attempt to balance the needs of the system.

The District understands the Corps' concern about pursuing the repair of the Herbert Hoover Levee and appreciates the caution needed during high water events. However, a change in the lake's operation schedule is not necessary to implement Phase 1 of the levee rehabilitation project. We encourage the Corps to not adopt the proposed alternative described in the July, 2007 draft SEIS.

We appreciate the opportunity to comment on the proposed regulation schedule and hope that the Corps will continue its long-standing commitment to provide supplemental irrigation water from Lake Okeechobee to meet the needs of one of the country's most productive agricultural regions.

Very truly yours,

CLEWISTON DRAINAGE DISTRICT



Jose Lopez
Supervisor

FS/DRG/HS/dw/ss

cc: Pete Milam, USACE, Jacksonville, FL

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13081 MILITARY TRAIL
DELRAY BEACH, FLORIDA 33484 -1105

August 16, 2007

Board of Supervisors
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Attorney
Perry & Kern, P.A.

Yvonne Harberer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Ms. Harberer:

The Lake Worth Drainage District ("LWDD") is writing to provide comments on the August 2007 Tentatively Selected Plan ("TSP" or "new TSP") for the Revised Draft Supplemental Environmental Impact Statement ("SEIS") for the Lake Okeechobee Regulation Schedule Study (LORSS).

The Lake Worth Drainage District ("LWDD") was created pursuant to Special Act and Chapter 298, Florida Statutes. It is the largest drainage district in the State of Florida. The LWDD encompasses approximately 218 square miles in southeastern Palm Beach County and supplies water to, and provides flood control for, 13 municipalities with a population of over 750,000 residents, 10,000 acres of agricultural land and is bordered to the west by the Arthur R. Marshall Loxahatchee National Wildlife Refuge, known as Water Conservation Area 1 ("WCA 1"). The water management system of the LWDD includes approximately 511 miles of canals, 20 major water control structures and numerous other minor structures. This system provides groundwater recharge for municipal wellfields and the system is used for the prevention of saltwater intrusion. LWDD has been a constant stakeholder in Everglades and Lake Okeechobee issues.

LWDD's source of water is Water Conservation Area 1. Releases from WCA-1 are governed by a regulation schedule which prohibits net outflows to LWDD's system from WCA-1 when water levels in WCA 1 are less than 14 feet, unless an equivalent volume of inflow from Lake Okeechobee is provided. Therefore, in times of water shortage, LWDD and WCA-1 are heavily dependent on releases from Lake Okeechobee.

The LWDD's review of the proposed alternative in the SEIS indicates that it has mixed performance. The SEIS downplays the risk to water supply and the corresponding economic impacts in terms of performance of the TSP in times of drought. While we appreciate many of the changes the U.S. Army Corps of Engineers ("Corps") has made to the TSP since the last version circulated for public review a year ago, we still have concerns with the effects of this schedule on water supply in the Lower East Coast Service Area 1 because this area relies completely upon Lake Okeechobee as the backup supply source in times of water shortage.

The LWDD acknowledges that unless and until more water storage projects are constructed it will be difficult to achieve a balanced Regulation Schedule. Other constraints, such as the limited capacity of the stormwater treatment areas ("STAs") to accept water from the north, further complicate the options to make water supply deliveries. Finally, this TSP shows that the small improvements to water supply services are due to the use of the 2006 Lake Okeechobee

Yvonne Harberer
U.S. Army Corps of Engineers
August 20, 2007
Page 2 of 5

Water Shortage Management (“LOWSM”) Plan, which has still not been adopted. Therefore, these assumptions are still a moving target. For instance, the SEIS provides that without 2006 LOWSM, cutbacks increase by 10 months for the LEC Service Area 1. This is an unacceptable significant harm to water supply. Due to this uncertainty, the LWDD is greatly concerned that implementation of this TSP will not provide the amount of water needed in our area. The risks to water supply are demonstrated by the increase in Lower East Coast water restrictions, the frequency of Minimum Flow and Level exceedences and violations for Lake Okeechobee, and the need to operate forward pumps to deliver water out of Lake Okeechobee when the levels are low.

For the purposes of these comments, the terms Tentatively Selected Plan (“TSP”), Alternative E and “T3” are the same alternative, which is the currently chosen plan presented in the SEIS. Our key points regarding the new TSP are as follows:

1. Lower Lake Elevations

With any schedule that is going to reduce higher stages, there will be more times when the water supply targets at the low end of the schedule cannot be met.

Section 2.5, Page 21: The temporary forward pumps have been constructed and the SFWMD is no longer “proposing” these structures. The section should also describe the status of the permanent forward pumps and what changes, benefits, impacts or differences may occur due to their use in the context of the TSP. For instance, these temporary forward pumps were not as effective as hoped during this last drought given how low the Lake actually went and the fact that all stakeholders needed the water. Will the permanent forward pumps rectify the problems that occur when the Lake is so low?

Section 3.4, Page 80: The section on “Make-Up Releases” needs to be expanded. The section describes the operation as allowing for releases to be “made up” for water that couldn’t be moved out of the Lake due to high water elevations in the Water Conservation Areas (“WCAs”), Stormwater Treatment Area (“STA”) capacity limitations and conveyance limitations in the Everglades Agricultural Area (“EAA”). The targeted releases limited due to these constraints can later be “made up” from Lake Okeechobee “as soon as possible” and “may occur when Parts C and D do not allow releases or prescribe lower volume releases”. Will this water be released when it is needed for water supply deliveries? The use of “Make-Up Releases” needs clarification because the assumptions for this operation do not exist in the SEIS. *See also*, Page A-12.

2. Water Supply Discussion

Section 6.12.1, Page 165: Demands not met in the Lower East Coast (“LEC”) Service Area show no change in the amount of water shortage cutbacks between the No-Action and the TSP, but those water shortages increase when the current WSTs are in place. Equally important is the fact that these WSTs are the currently adopted triggers that must be used until the 2006 LOWSM is finally adopted. The SEIS should not be premised on 2006 LOWSM if those triggers have not

Yvonne Harberer
U.S. Army Corps of Engineers
August 20, 2007
Page 3 of 5

been adopted by the time the SEIS is finalized. Use, and adoption, of the new water shortage triggers is very important to offset impacts from a lower Lake schedule.

Section 6.12.1, Page 167: Table 6-15 shows the “Value of Unmet Demands” for municipal and industrial water supply. The TSP performs better over the existing WSE schedule, but does not perform as well as the previous TSP. This effect, exacerbated by potential changes in the 2006 LOWSM and SFWMD Water Shortage rules, creates a significant amount of uncertainty regarding the impact of the proposed TSP to water supply. These issues must be resolved before the Final SEIS. *See also*, Table 3-2, Appendix D and Page E-41.

Appendix D, D-30: Table 3-1, “Recommendations of the Draft Lower East Coast Water Supply Master Plan (“LECWSP”) should be updated to those Recommendations contained in the 2006 Update to the LECWSP, not the 2000 version.

Appendix E, Page E-33: “All alternatives demonstrate a trend to reduce lake stages by approximately 1.0 to 1.3’ under normal to wet conditions.” Extreme low stages are reduced from 9.46’ in the No-Action alternative to 8.71’ for the tentatively selected plan. Again, this effect, exacerbated by potential changes in the 2006 LOWSM and SFWMD Water Shortage rules creates a significant amount of uncertainty regarding the impact of the proposed TSP to water supply.

Appendix E, Page 43: The TSP shows one more month of cutbacks for the LEC Service Areas 1 and 2. While this impact may not seem significant, due to the uncertainty surrounding 2006 LOWSM and the SFWMD’s Drought policy and rules, “all alternatives showing a reduced availability of Lake Okeechobee water for Lower East Coast water supply needs during extreme dry conditions” is of concern. This reduction, coupled with the Regional Water Availability Rule’s effect, creates more uncertainty for water supply. These issues must be addressed before finalizing the SEIS.

Appendix E, Page 44-45: Without the 2006 LOWSM, cutbacks increase by 10 months for LEC Service Area 1, and 7 months for LEC Service Area 2. The SEIS states, “The final SFWMD efforts [to address modifications to same] are anticipated to be completed prior to implementation of any new regulatory schedule for Lake Okeechobee and the efforts will be able to consider the additional data provided from the 2007 LORSS SEIS Plan.” The SEIS does not state that this will be publicly reviewed before the SEIS is finalized, please address any changes to 2006 LOWSM before finalizing the SEIS.

3. Commit to Needed Infrastructure

Holding Lake elevations lower requires infrastructure to supply water for people and the environment. The permanent infrastructure to do that, including the permanent forward pumps and the structures to make the additional water storage lands available for use, must be identified and constructed.

Yvonne Harberer
U.S. Army Corps of Engineers
August 20, 2007
Page 4 of 5

4. Update Timelines

The implementation of this LORSS has been delayed and it is likely that the various Comprehensive Everglades Restoration Plan ("CERP") projects that will provide more water storage, thus taking pressure off the Lake, will be delayed as well. The end result is that this "interim" schedule may be in place longer than 2010.

Section 1.7, Page 11: Until more water storage (significant storage) is brought on line, only minor improvements in the Lake's schedule can be achieved. Mindful of that concept, Phase efforts must be scheduled and based on real timelines that are affected by the authorization and funding of Comprehensive Everglades Restoration Plan ("CERP") projects and Acceler8 projects. While Band 1 of the Master Implementation Sequencing Plan ("MISP") may provide the best information on the projected schedules of these projects, the SEIS should reflect the reality that a permanent schedule by 2010 may not be achievable. *See also*, "Proposed Operational Guidance", Page A-7.

5. Revision of Water Shortage Triggers

The LWDD understands the need to use the 2006 LOWSM and the other modeling updates as the best available information to incorporate into the SEIS. However, it is clear that the LOWSM and water shortage rules have not been finalized and are to be revisited by the SFWMD. Therefore, the effect on the TSP is unknown. The entire SEIS performance relative to water supply is uncertain given these facts. This is demonstrated in Section 2.2, Page 16, where the SEIS states, "Based on guidance from SFWMD, the 2006 draft LOWSM plan was not anticipated to undergo significant change prior to the approval by the SFWMD Governing Board later in 2007". *See also*, "Lake Okeechobee Management Bands, Water Shortage Management Band", Page A-8-9.

Section 2.3, Page 17: The 2006 alternatives were based on a 1.0' lowering of the Supply Side Management line ("SSM") while the 2006 LOWSM plan utilizes a lowering of the "trigger line" by 0.8'. There are significant differences in the performance of the alternatives due to the placement of this trigger line. While the 2006 LOWSM line is probably a more accurate depiction of where the ultimate trigger line may be, again, there is still some level of uncertainty surrounding the elevation of the line and what the effect may be. The Corps and SFWMD should use every effort to finalize the LOWSM plan, model its effects in the context of the TSP and incorporate those results into the Final SEIS.

Section 3.3, Page 76: In the description on the "Water Shortage Management Band", the document states that draft Water Shortage Management Band elevations may change upon completion of SFWMD's rulemaking process in 2007." This statement illustrates the uncertainty and potential for increased impact to water supply. As stated above, the rulemaking process may be more expansive than originally contemplated and the SFWMD and Corps should work to ensure that all of this analysis is complete before the Final SEIS.

Yvonne Harberer

U.S. Army Corps of Engineers

August 20, 2007

Page 5 of 5

Section 4.4, Page 94: The SEIS acknowledges that modification of water shortage rules is important as the Preferred Alternative model run projects lower Lake levels more often than the existing WSE schedule. This results in more Lake Okeechobee Minimum Flow and Level ("MFL") violations and the need for water shortage rule revisions that address this issue. This makes our previous comments regarding the uncertainty regarding the LOWSM 2006 all the more relevant.

6. Clarify Use of Additional Storage Lands

The potential impact or benefit to water supply from the use of additional lands for water storage is unclear. There are also a number of other issues to be addressed regarding the use of additional lands for water storage.

With the other problems of CERP water storage project delays, the delay in this TSP and potential revisions to the SFWMD water shortage triggers, it is clear that the "mitigation strategies" (such as storage on additional lands) need clarification before this SEIS is finalized and the new TSP is implemented. Clarifying and finalizing the SFWMD water shortage triggers and policy is also central to the effort of addressing mitigation strategies. It appears that based upon the significant uncertainty surround the use of LOWSM 2006, and how the additional water storage lands will be operated, there is an unacceptable impact to water supply in the LEC. The extent of that impact is tremendous using the currently adopted water shortage triggers. That impact appears to be reduced when the LOWSM 2006 triggers are used. Given the fact that LOWSM 2006 is not adopted and is a moving target, the LWDD cannot support this TSP based on the information in this SEIS. We appreciate the opportunity to provide these comments to you and we look forward to working with you on improving the next Draft of the LORSS SEIS. For any additional questions you might have, please do not hesitate to call Michelle Diffenderfer / Erin Dedy (at 561.640.0820) or me at (561. 819.5562).

Sincerely,

Lake Worth Drainage District



Ronald L. Crone
Manager

c: Patrick Martin - LWDD
Pete Milam - U. S. Army Corps of Engineers
Mark Perry - Perry & Kern
Michelle Diffenderfer - Lewis, Longman & Walker, P.A.

AGRICULTURE

Sugar Cane Growers Cooperative of Florida

POST OFFICE BOX 666

33430-0666

BELLE GLADE, FLORIDA

August 15, 2007

Ms. Yvonne Haberer
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

RE: Lake Regulation Schedule

Dear Ms. Haberer:

We are in receipt of the July 2007 draft Supplemental Environmental Impact Statement (SEIS) for the Lake Okeechobee Regulation Schedule. We appreciate the Corps efforts to hold public hearings to receive input on this proposed interim lake schedule.

For the record, the same comments we made a year ago in writing and publicly on September 18, 2006 still apply to this version of the lake schedule as do the statements made at the August 13, 2007 public hearing in Belle Glade, Florida. (See attached copies).

The revised Tentatively Selected Plan (TSP) or Alternative E that is being recommended in the SEIS recognizes that the local sponsor, the South Florida Water Management District (SFWMD) no longer supports the Lake Okeechobee Water Shortage Plan (LOWSM) that was used as a surrogate during the development of the proposed lake schedule. However, in all model runs the base condition assumes the SFWMD will lower the Water Shortage Trigger (WST) 0.8 feet and that temporary forward pumps will be utilized whenever the lake reaches elevation 10.2'. The operational guidelines allow the Corps to draw the lake down to 12.56 feet each spring in hopes of avoiding high lake stages and large discharges to the estuaries later in the year. This is a clear threat to agricultural businesses in the Lake Okeechobee Service Area (LOSA), including every grower-member of Sugar Cane Growers Cooperative. Twice in the last seven years, the decision was made to drop the lake stage to 12 feet by June 1st and both times this resulted in record water shortages costing agri-businesses several hundred millions of dollars. The Florida Department of Agriculture and Consumer Services (FDACS) has estimated that this year's water shortage has resulted in \$100 million in crop losses so far and it could reach \$1 billion if the water shortage persists through next year.

The proposed lake schedule poses a great risk to water supply while providing marginal, if any, improvements to the estuaries, the lake ecology and the Everglades compared to the existing WSE schedule. It also negatively impacts navigation through the Federal Okeechobee waterway.

Since the Corps is uncertain as to how the Lake will be managed when the stage is in the Water Shortage Band (see page 76), the SEIS attempts to capture a range of potential impacts to water supply by analyzing the revised TSP with the existing water shortage rules. Table 6-13 compares the WSE schedule with current operational guidelines in the water shortage zones and the surrogate WST lowered 0.8 foot as modeled in the LORRS. Water shortages occur twice as frequently (from 7-14 times during the period of record) and the duration almost triples (from 13 months to 37 months) when using the existing rules compared to the WSE schedule or the surrogate model. The overall score or rating on water supply performance is -2.65 and falls in the "much worse" category.

The SFWMD has stated that it has no intention of lowering the WST 0.8 feet due to the increased potential for violations of the Minimum, Flows and Levels (MFL) rule. This means that water users will be faced with more frequent and severe water shortages. However, on page 17, the SEIS states that the District will complete its changes to its water shortage rules in *advance* of any new regulation schedule resulting from the LORSS process. Under your current timeline for implementation of the proposed lake schedule, we do not see how this rule development will be completed in time for it to be included and analyzed in your final EIS.

The NEPA process requires that the Corps disclose anticipated social, economic and ecological impacts of their proposed action. How can the Corps comply with NEPA when it does not have an agreement with the local sponsor as to how the lake will be managed in the Water Shortage Management Band? Assuming that the Governing Board will adopt a particular water shortage rule in the future is simply without foundation and may grossly understate the adverse impacts of the proposed action. We believe it's incorrect and totally inappropriate to conclude that the new proposed schedule has no water supply impacts when it's clear that serious water shortages will occur when existing rules are followed.

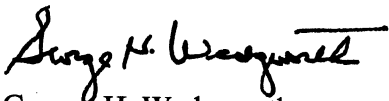
Compounding the uncertainty of this proposed action is the unresolved issue with the U.S. Fish and Wildlife Service regarding its "may affect" decision under the Endangered Species Act on the Everglades snail kite, wood stork and Okeechobee gourd triggering the need for a biological opinion. The ability to routinely use the temporary forward pumps which is the assumed operation in all alternatives is dependant upon this opinion.

Due to the un-intended consequences resulting from the LORRS schedule, at the April 11, 2007 SFWMD Governing Board meeting, the District asked the Corps to reformulate its plan. Because of the levee integrity issue, the Corps continues to feel obligated to operate under lower lake stages until Reaches 1-3 (approximately 50 miles) are shored up by filling in the toe ditch and strengthening the seepage berm. We support the rehabilitation project.

At the June 14, 2007 Governing Board meeting, a compromise was reached where the Corps would adopt an "interim" lake operations schedule that would be in place for approximately three years (2010) to allow for the partial rehabilitation of Reaches 1-3; then the operations would revert back to WSE or the equivalent for water storage and Everglades restoration purposes. The District would "memorialize" its water shortage operations and deal with the MFL issues prior to the approval and adoption of a new lake regulation schedule. We reluctantly agreed to this approach, however, none of these actions have yet taken place, therefore we cannot support this proposed regulation schedule, in fact the draft SEIS states that this schedule will be in place for an indeterminate amount of time until some new schedule is in place and that could take many years.

We believe it's premature for the Corps to adopt this new proposed regulation schedule. The unresolved issues surrounding water shortage operations, MFLs and the Endangered Species Act must be resolved and understood prior to adopting an operating regime that spells disaster for LOSA users. We urge you to resist adopting a new regulation schedule and stay the course with WSE. This schedule provides you with the flexibility that water managers desire to make positive environmental releases. If circumstances arise that call for emergency operations to protect the integrity of the levee, the Corps has plenty of authority to make those adjustments. The Corps should concentrate its efforts on the Phase 1 rehabilitation of Reaches 1-3 of the Herbert Hoover Dike within its existing right-of-way rather than using its resources to develop a schedule that may exacerbate the current water shortage and low lake stage situation.

Respectfully submitted,



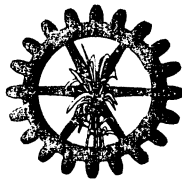
George H. Wedgworth
President & C.E.O.

GHW:BJM:swd

Attachments

GLADES SUGAR HOUSE

Sugar Cane Growers Cooperative of Florida



POST OFFICE BOX 666

33430-0666

BELLE GLADE, FLORIDA

September 18, 2006

Col. Paul L. Grosskruger
Commander, Jacksonville District
U.S. Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, FL 32207-0019

Dear Col. Grosskruger:

First, I would like to thank you for giving us the opportunity to share our views on the proposed Lake Okeechobee regulation schedule. My name is George H. Wedgworth and I serve as president and CEO of Sugar Cane Growers Cooperative of Florida. The Cooperative is made up of 49 small to medium size sugarcane and vegetable growers located in Palm Beach County. For the last 50 years our livelihoods have been directly linked to management of the Central and South Florida Flood Control Project.

My family has been in Belle Glade since 1930 and we have grown up with the water management system starting with the early drainage efforts of the Everglades Drainage District. My late-mother testified at Congressional hearings of the need for the system before House Bill 643 was passed in 1948. The development of agricultural land in the Everglades Agricultural Area (EAA) was one of the primary justifications for the Project. The Cooperative has had several grower members sit on the Governing Board of the Water Management District and are active participants in water-related activities as well as being great supporters of the U.S. Army Corps of Engineers.

For farmers, the overriding concern with the proposed lake regulation schedule is water supply. We have to be able to get water from the Lake during dry periods or we will suffer crop losses. There has been much discussion lately about freeing up the regional water supply for the environment and moving water use to alternative sources. For agriculture in the Lake Okeechobee Service Area including the EAA there is no viable alternative. On August first of this year the lake stage was below 12 feet and there was talk of declaring a water shortage. This year the lake was operated in a manner very similar to the 2000-01 managed recessions that wrought over \$50 million worth of losses to sugar growers alone. I personally toured the lake bottom on a half-track and witnessed miles of littoral zone as cracked, dried up mud without any boat or recreational access to lakeside marinas. The recreational community was up in arms, the urban areas were on water restrictions and our crop received less than half the water it needed to grow. To us, a drought that was made much worse by water management decisions is a very recent memory. And it is a mistake that we would not like to see repeated.

The proposed schedule relies on the use of temporary forward pumps, provided by the South Florida Water Management District, to get water out of the lake during water short years. What happens to the Lake schedule if for some reason the new pumps are not built or allowed to be operated? Since every alternative that has been evaluated assumes they are in place, a final answer on the forward pumps is necessary prior to adoption of this schedule.

In light of the uncertainty regarding the future pumps, the planned adoption of this schedule is premature. A new schedule should not be approved until a final biological opinion is received from the U.S. Fish and Wildlife Service allowing for the use of forward pumps as contemplated in the proposed schedule. Without that there is no valid schedule, and south Florida would have no protection from the next drought.

In addition to timing of the schedule decisions, we have other concerns. Predictability in water supply is necessary for farmers in order for them to make essential business decisions. The non-typical operations section contained in the draft water control plan is very confusing and makes it impossible for us to predict what you are actually going to do. This section should be deleted.

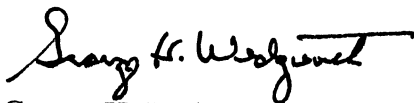
In summary, severe water supply shortages for the Lake Okeechobee Service Area and Lower East Coast are unacceptable. The lake regulation schedule needs to provide assured methods for dealing with the next water shortage that we know will come. This includes the operation of forward pumps and a new water shortage plan that works.

We have preliminarily reviewed the risk analysis contained in the draft EIS and wonder if there is a place where you can direct us for more information.

We believe the risk of "failure" is overstated since the probability of a high wind and rain storm event occurs when the lake is at its peak elevation. Therefore, it's likely that the real risk of failure is something less than 10% at 17' and less than 45% at 18'. We live here and believe flood protection is essential to our lives and livelihoods. However, we question whether the 17.25' constraint is indeed the correct elevation to protect public health and safety while not compromising the estuaries or water supply. Has your risk analysis been independently scientifically peer reviewed as is the Corps current policy on issues like these?

We ask that you please consider water supply ramifications in modifying the lake regulation schedule. Thank you for listening to our concerns.

Sincerely,



George H. Wedgworth
President & C.E.O.

**Remarks by George H. Wedgworth
President & C.E.O.
of
Sugar Cane Growers Cooperative of Florida
on the
Revised Draft Supplemental Environmental
Impact Statement
Lake Okeechobee Regulation Schedule
U.S. Army Corps of Engineers
August 13, 2007**

- For farmers the overriding concern is water supply. We, and it should be for the rest of south Florida who depend on Lake Okeechobee either directly or indirectly, must have water from the Lake during dry periods. Water supply was one of the federal purposes of the C&SF Project when it was authorized in 1948 and it is still a stated purpose of both the state and federal governments today. That is also why, over the last 50 years, thousands of individuals and businesses have invested billions of dollars to establish one of the country's most productive centers of agribusiness in the Lake Okeechobee Service Area (LOSA).
- Over the last 7 years we have endured two catastrophic water shortages that were a combination of dry weather and poor decision making by the Corps of Engineers and the South Florida Water Management District (SFWMD). Unfortunately, this plan institutionalizes those bad decisions for an unlimited time in the future.
- To make this plan appear to work the Corps simply assumed the SFWMD will perpetually come up with dedicated pumping facilities and water shortage rules so irrigation and water supply needs can be met no matter how low the Corps decides to take the Lake.
 - How do we know that is going to happen? Does the Corps have assurances that its local sponsor will amend its water shortage plan to achieve the water supply results presented in the Supplemental Environmental Impact Statement (SEIS)?
 - Until the Water Management District can certify to the Corps, and affected parties that the water supply performance the Corps assumed will be achieved, this SEIS is not valid and doesn't meet NEPA requirements and

cannot be used as the basis for adopting this proposed new lake operations schedule.

- This is a terrifying schedule for farmers in the Lake Okeechobee Service Area. We have previously suggested that the Corps not change the schedule, but utilize temporary deviations from the present schedule if necessary until the Herbert Hoover Dike is repaired. Now the Corps wants to institutionalize this schedule. This so undermines the original intent of the C & SF Project that we think you need new Congressional authorization before you could adopt this schedule.
- Farmers support the remedial action project for the Herbert Hoover Dike. However, severe water supply shortages for the Lake Okeechobee Service Area and Lower East Coast are unacceptable. A lake regulation schedule needs to provide us with concrete methods for dealing with the next water shortage that we know will come. This document assumes a lot of things will happen that we have no confidence that they can, or will occur.

YOUNG VAN ASSENDERP, P.A.

ATTORNEYS AT LAW

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GEORGE ANN C. BRACKO
EXECUTIVE DIRECTOR

August 17, 2007

Ms. Yvonne Haberer
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Re: Comments of FSCL on Lake Okeechobee
Regulation Schedule and July 2007 draft
Supplemental Environmental Impact Statement
(SEIS)

Dear Ms. Haberer:

I am writing on behalf of the grower and processor members of the Florida Sugar Cane League, Inc. who are engaged in water dependent agricultural operations in the Everglades Agricultural Area, south of Lake Okeechobee, an area receiving agricultural irrigation supplies from the Central & Southern Florida Project. We are grateful for this and prior opportunities to comment on proposed revisions to the existing "WSE" Lake Okeechobee Regulation Schedule. We made earlier comments which are similar to the comments in this letter. A copy of our earlier comments provided on October 11, 2006 is attached.

Your July 2007 draft Supplemental Environmental Impact Statement (SEIS) and the revised Tentatively Selected Plan that is recommended both assume that the South Florida Water Management District (SFWMD) will amend both its water shortage rules and Minimum Flows and Levels applicable to Lake Okeechobee and that these changes will be made prior to the implementation of the Tentatively Selected Plan. Your SEIS and revised Tentatively Selected Plan also assume that the SFWMD will provide water deliveries to the EAA, in times of very low Lake stages, through the use of forward pumps.

It is now clear that none of these assumptions can be relied on to support either the SEIS or your proposed revisions to the existing Lake Okeechobee Regulation Schedule. We now understand, and urge you to verify, that the SFWMD will not

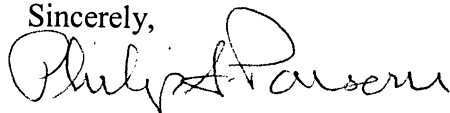
propose amendments to the water shortage rule to lower the water supply allocation "triggers", nor will they propose amendments to the Minimum Flows and Levels for Lake Okeechobee. Further, as our attached letter of October 11, 2006 pointed out, there are unresolved issues arising under the Endangered Species Act so that the routine use of forward pumps, which is the assumed operation in the SEIS, cannot be relied on.

Given these flawed assumptions, your July SEIS does not comply with the requirements of NEPA. You have concluded in the July SEIS that the new proposed Regulation schedule will have no adverse water supply impacts even though the water shortages experienced in 2001 and this year show just the opposite. Moreover, on April 11, 2007 the SFWMD Governing Board requested the Corps to reconsider the new proposed regulation schedule so that the Corps does not have the support of its local sponsor.

We are mindful that the Corps and the SFWMD share concerns of whether the Lake Okeechobee levee has structural flaws threatening its integrity in the event of storms during high lake stages. We urge you, however, not to adopt a new Lake Regulation Schedule but to continue or propose alternative operating protocols as temporary deviations from the established WSE schedule as you have in the past.

Thank you for this opportunity to make further comment.

Sincerely,

A handwritten signature in dark ink, appearing to read "Philip S. Parsons". The signature is fluid and cursive, with the first name "Philip" being more prominent.

Philip S. Parsons

For the Florida Sugar Cane League, Inc.

YOUNG VAN ASSENDERP, P.A.

ATTORNEYS AT LAW

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GEORGE ANN C. BRACKO
EXECUTIVE DIRECTOR

October 11, 2006

Mr. Pete Milam, Project Manager
U.S. Army Corps of Engineers
701 San Marco Blvd.
Jacksonville, FL 32207

Re: Revised Lake Okeechobee Regulation Schedule
and EAA Water Control Plan – proposed Water
Management Operational Guidance

Dear Mr. Milam:

I am writing on behalf of the grower and processor members of the Florida Sugar Cane League, Inc. who are engaged in water dependent agricultural operations in the Everglades Agricultural Area, south of Lake Okeechobee. We are grateful for this and other opportunities to comment on the proposed revisions to the existing Lake Okeechobee Regulation Schedule and related revisions to the Water Control Plan.

The Florida Sugar Cane League recognizes the environmental and structural impacts resulting from recent high stages in Lake Okeechobee and understands the need to moderate higher Lake stages. We know also, however, that the Tentatively Selected Plan now proposed in the Lake Okeechobee Regulation Schedule Study will bring much lower Lake Stages than 12.5 ft.

EAA Landowners experienced substantial economic losses during the most recent low Lake stage episode even though temporary forward pumps were installed.

Proposed operational guidance during the lowest of the proposed Management Bands, the "Supply Side Management Band" is that operations in this zone be governed by the South Florida Water Management District Supply Side Management Plan. The South Florida District's Supply Side Management Plan is, as your Draft Supplemental EIS acknowledges, under revision and rulemaking won't be complete until after this current comment period ends. There is also uncertainty as to compliance with the existing Minimum Flow and Level adopted for the Lake during more frequent low levels.

The proposed Revisions to Lake Okeechobee Operational Guidance also state that “Species of special concern and other issues will be considered in determination of lake release to be performed at lower lake levels to avoid extreme low lake levels, when possible.” The Draft Supplemental EIS notes that there are unresolved issues and that the Corps and U.S. Fish and Wildlife Service “are engaged in formal consultation under the Endangered Species Act” and “issuance of a Biological Opinion by the USFWS is forthcoming.” We have to presume that if the USFWS information leads to any changes to the proposed schedule, a revised draft SEIS will be produced and additional public review and comment will be solicited.

The analysis of your tentatively selected plan assumes that the Water Management District’s Supply Side Management Plan and installation of forward pumps will allow continued delivery of water to the EAA during low Lake Stages as was provided in the last extreme drought.

If this assumption is not correct, your conclusion that the tentatively selected plan provides the most optimum balance of C&S Florida Project purposes will be unfounded. You won’t know whether your assumption is correct until (1) the formal consultation with USFWS is complete and the Biological Opinion has been provided and (2) issues relating to the District’s Supply Side Management Plan and Minimum Flow and Level have been resolved.

We concur with your recent decision to wait for the Biological Opinion from USFWS before completing your Supplemental EIS.

For these reasons, the Florida Sugar Cane League urges you not to take final action on the tentatively selected plan for the Lake Okeechobee Regulation Schedule and related Operational Guidance until all of these issues are resolved and the operation of forward pumps delivering water from Lake Okeechobee to the EAA has been authorized under all applicable requirements.

Thank your for this opportunity to make further comment.

Sincerely,

Philip S. Parsons
For the Florida Sugar Cane League, Inc.



Post Office Box 1319
LaBelle, Florida 33975

Phone: 863-675-2180

Fax: 863-675-8087

Website: www.gulfcitrus.org

August 2, 2007

Ms. Yvonne Haberer
Planning Division, Environmental Branch
Jacksonville District, U.S. Army Corps of Engineers
P. O. Box 4970
Jacksonville, FL 32232-0019

Dear Ms. Haberer:

This letter is in response to, and for the record, regarding the recently released "Revised Draft Supplemental EIS for the Lake Okeechobee Regulation Schedule. Our organization has commented on the previous "tentatively selected plan" (TSP) released last fall by the Corps of Engineers, and would also like to go on record on the "Revised Draft SEIS". The Gulf Citrus Growers Association is a trade organization representing citrus growers in Charlotte, Collier, Glades, Hendry and Lee counties with over 140,000 acres of groves.

For the record, our citrus growers rely heavily on Lake Okeechobee and the connected Caloosahatchee River for their irrigation water supplies. So, we feel managing the level of Lake Okeechobee and any "adjustments" to that lake regulation schedule to benefit the water supply needs of our growers and other permitted water users of the system should be a top priority of the Corps. Citrus growers and other agricultural commodities in the region have been negatively impacted by low Lake Okeechobee water levels and drought conditions in the 2000-2001 time frame, and once again this year (2007). We are very concerned that the current "record" drought will also impact growers again in 2008! Our growers feel that better water management decisions related to Lake Okeechobee and its inter-connected system for the purpose of water supply would lessen these economic impacts (millions of dollars) on the industry. Therefore we respectfully request that the Corps' proposed "revised" regulation schedules for the lake truly take the needs of water users into added consideration during the next few years!

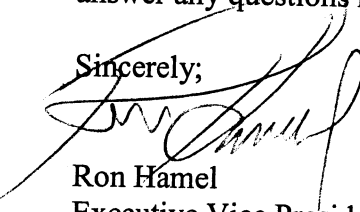
Further, we understand that there are very important structural issues regarding the integrity of the Herbert Hoover Dike. We certainly support the Corps' plan to address these issues and complete "Phase 1" improvements for reaches 1, 2 and 3 of the dike as expeditiously as possible. We also support any actions by the Corps that will lead to a more effective way to distribute available water supplies during water shortages. It is our understanding that the proposed "Revised Draft SEIS" is temporary and that additional storage in the system as advanced in the CERP/ACCELER 8 plans will be incorporated into the system's management plans in the years ahead. We certainly support all these improvements to the entire watershed which will enhance the Corps' and the South

Florida Water Management District's efforts to more efficiently and effectively manage Lake Okeechobee and its connecting water bodies for the benefit of all water users, as well as the environment!

In closing and for the record, the Gulf Citrus Growers Association has a long and responsible record of engagement as a representative of major stakeholders regarding water issues, including the USACE "Restudy" and the Comprehensive Everglades Restoration Plan (CERP). Our organization is also actively engaged in promoting the adoption of Best Management Practices (BMPs) for citrus growers within the Caloosahatchee River Basins. And, we have long been engaged in practicing water conservation including the rapid adoption of low volume irrigation systems to efficiently irrigate citrus groves in Southwest Florida. We point this out because we feel that our growers are doing their part to conserve the water resources of the region. We are very concerned that continued Lake Okeechobee regulation schedule decisions that do not properly provide for ample water supplies for legal water users will increase the risks of "water rationing" and "water shortage cutbacks" and therefore make our citrus/agriculture much less sustainable in this part of the state of Florida.

We appreciate your good services and attention to our comments. We will be happy to answer any questions regarding this letter.

Sincerely;



Ron Hamel
Executive Vice President

Cc: Board of Directors
Governmental Affairs Committee
Senator Bill Nelson
Senator Mel Martinez
Congressman Tim Mahoney
Congressman Connie Mack



P.O. BOX 620257 • OVIEDO, FL 32762-0257 • BUSINESS 407-365-2111 • FAX 407-365-2110

Mr. Pete Milam, Project Manager
U.S. Army Corps of Engineers
701 San Marco Boulevard
Jacksonville FL 32207

August 21, 2007

Delivered via e-mail

Subject: LORSS REVISED ENVIRONMENTAL IMPACT STATEMENT REVIEW

Dear Mr. Milam:

The Abstract claims that the Lake stage reached "higher than normal levels". The Executive Summary claims that the Lake stage reached "above average levels". A graphical analysis of the historic Lake stage hydrograph shows 14.5' as the average Lake level for the 1930 to 2007 timeframe. The claim that the 2003 to 2005 (3 ½ year) timeframe was wetter than the average is technically correct; however, in the 77 year period of record, there were five other (3 ½ year) stage-duration events that exceeded the 2003 to 2005 event in terms of water volume stored above the average. In addition, there were 4 other events that exceeded the 2003-2005 peak stage and 6 other events that were within 6" of the 2003-2005 peak stage. In fact, 50% of all the data is above the average.

See the attached PDF showing the details of the graphical analysis (zoom to see text). The area under the curve (shown in red) represents the 2003-2005 timeframe used herein for discussion. The magenta lines represent the 2003-2005 peak stage and this peak stage minus 6". The circles represent the peak stage events exceeding or within 6" of the 2003-2005 peak. The six horizontal brackets beneath the time scale are the 3 ½ year stage-duration events identified above.

These six stage-duration events equate to 21 years at or exceeding the 2003-2005 levels. This means that the Lake has equaled or exceeded the 2003-2005 event for over 27% of the 77 year history. The summary information presented above provides a more realistic assessment of the stage-time history of the Lake. To point to an exceedance of the average and call the events "usually wet" without thoroughly assessing the data creates a false sense of urgency and overstates the severity of the environmental conditions. This hydrograph analysis and past performance of the Herbert Hoover Dike in extreme events notwithstanding, everyone agrees the real concern is the sub-surface soil conditions below the HHD and its' structural integrity.

The following two paragraphs are excerpts from FDEP / Everglades Forever webpage on the Everglades history:

Geological survey data indicate that Lake Okeechobee was formed about 6,000 years ago, when ocean waters receded and water was left standing in a shallow depression in what today is known as the state of Florida. The expansive lake that resulted from this process was named Okeechobee, which means "big

water" in the Seminole Tribe language. The lake was a direct source of water to the Everglades, by way of numerous small tributaries passing out of the lake's southern end.

Changes in South Florida have had severe impacts on Lake Okeechobee. In the 1890s, Hamilton Disston, a Philadelphia businessman and real estate developer, constructed a canal connecting Lake Okeechobee with Lake Hicpochee, the headwaters of the Caloosahatchee River, providing the lake's first outlet to tidewater via the Caloosahatchee River. In the early 1900s, the Everglades Drainage District constructed several other canals that impacted Lake Okeechobee. These canals provided a slow, continuous drainage from Lake Okeechobee and the Everglades. The goal was to drain the northern Everglades for agriculture to prevent the crops from flooding.

These canals were intended to reduce the Lake level and the surrounding property groundwater level for the benefit of those living in the area. The benefit derived from the water supply and drainage system extends nationwide to all who purchase and consume the variety of agricultural products shipped from the south Florida area.

Topographic information presented in the ACOE literature on the HHD indicates that the pre-drainage "rim" elevation was approximately 15'. Considering these conditions, the 15' level could be presumed to be the "static or permanent pool" volume. Inflows occurring at or above this level would have resulted in outflow to the Everglades. Inflows occurring below this level would have resulted in storage. Storage in the Lake would have been slowly released to the surrounding lands via lateral seepage and lost to evaporation. Under this natural regime, the littoral zones within the Lake would have been subject to frequent inundation at the 15' level with a gradual decline, depending on climatic conditions.

The WSE and TSP should incorporate a "permanent pool" level near the 15' mark to mimic the pre-drainage condition and to insure continued adequate local water supply for all existing legal users of the Lake water. Dry periods will naturally drive the level into the 12' and below range. Tropical storm systems will require that adequate outflow capacity to the Everglades, the STA's, and the CERP Reservoirs be established and maintained, which I understand is currently part of the overall restoration plan.

Concerning water level control and the decision-trees, I stated in my October 16th, 2006 letter:

"The "high" and "intermediate" management bands logically follow the natural fluctuations due to the weather, leaving freeboard when excess rainfall is expected. The remaining bands erroneously follow this same pattern, becoming even more exaggerated. Logically, the SSM band should peak at times of peak demand which is opposite that of the upper management bands. A thorough analysis of the seasonal water supply demand is necessary to accurately define a manageable SSM band shape and level."

What I was suggesting here, is the same as my discussion in the previous paragraph, i.e. establish a flat "permanent pool" level. The 2007 Interim Regulation Schedule appears to have at least partially adopted this idea with the definition of the "Beneficial Use" band, albeit too low at the 12.6' level. This level will negatively impact the local water

supplies as demonstrated this year by the decision to lower the Lake to 12' rather than the 14' which was the defined target in April of 2006.

Given the current Lake conditions, we are faced with the prospect that the Lake level may not rebound sufficiently to sustain agricultural production this season. Had the level been lowered to the 14' target, we probably would be looking at initiating SSM protocols this fall, rather than already being in Phase III restrictions. As I was told in a public workshop meeting, the renovation work on the HHD necessitated the level reduction, in anticipation of an "active hurricane season". Based on my experience as a Florida resident, I suggest these types of short term predictions be excluded from the Regulation Schedule decision-trees and renovation planning. The long-term averages and probabilistic models are our only reliable climatic data.

Thank you for the opportunity to provide input and I look forward to a closer partnership between all water users who benefit from Lake Okeechobee.

Sincerely,

A handwritten signature in black ink, appearing to read "P.L. Coultas", with a long horizontal flourish extending to the right.

Peter L. Coultas, P.E.
Manager of Agricultural Engineering
A. Duda & Sons, Inc.

PDF Attachment

cc: Larry Beasley
Tracy Duda-Chapman
Yvonne Haberer, U.S. Army Corps of Engineers
Susan Howard
Carol Wehle, SFWMD



ALICO, INC.

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August 20, 2007

E-mail: LORSSCComents@
saj02.usacc.army.mil
Fax: 904-232-1434

Col. Paul L. Grosskruger
Commander, Jacksonville District
U.S. Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, FL 32207-0019

Dear Col. Grosskruger:

This letter is in response to your request for public comments concerning the "Revised Draft Supplemental Environmental Impact Statement; Lake Okeechobee Regulation Schedule – June 2007". As such it supplements my comments at the August 13, 2007 public meeting in Belle Glade, Florida on behalf of Alico and the farmers who lease land from us.

For background information, Alico, Inc., which located its first office in LaBelle in Hendry County in 1948, can trace its land stewardship back to 1898, as a subsidiary of the Atlantic Coastline Railroad. Alico, Inc. was incorporated as a public company (symbol: ALCO) in 1960. Today, as an agribusiness and land management company, Alico is primarily engaged in the production of citrus, cattle, vegetables, sod, sugarcane and forest products, within Hendry, Collier, Glades, Lee and Polk counties.

I personally have been active in Florida farming since leaving the United States Marine Corps in 1961. I have seen the challenges that constantly face farmers in south Florida, and understand first hand the impacts on the farming business and its employees from multiple hurricanes and drought.

It is with that background that I must register my extreme apprehension regarding this Corps recommendation of lowering the lake. I am concerned with what the future will bring under this proposed Lake Regulation Schedule. The water supply for half our Hendry county farming operations flows from the Caloosahatchee River, which is fed by Lake Okeechobee. During this 2006-2007 drought, we, like other farmers have been cut back to a Phase III water allocation that provides only 55% of crop water needs.

As a farmer, I know that a 45% cutback does not relate to a 45% reduction of crops. Without water, the crops will not produce. It is that simple. We simply cannot move forward with the proposed Lake Regulations schedule, which will result in a significant negative impact on the agricultural community that is dependent on lake water.

The protection for the public of a safe and secure supply of vegetables to this Nation should not be overlooked by the U.S. Army Corps of Engineers. Florida is blessed with the climate, soil and water resources that allow us to supply 80% of the winter vegetables to the United States, east of the Mississippi. Among these are Alico's products of sweet corn, peppers, beans and squash. Florida's vegetables are among the safest products in the world, complying with food security, sanitation requirements, and proper application of pesticides and herbicides.

Agricultural production was and is a key stated objective of the Central and Southern Florida Flood Control Project; one that seems to be lost in the current Corps stated study performance objectives.

Certainly, Alico supports the objective of public health and safety to ensure the stability of the Herbert Hoover dike. To accomplish this end, the Corps should be moving with lightening speed to construct the repairs to protect the reaches of the Herbert Hoover Dike that have been identified as potential weak points.

A new lake level schedule is not the appropriate response in such circumstances. A new schedule, even if called "interim", provides a false sense of security that the repairs can wait. A new schedule for Lake Okeechobee should not be forced to include a limitation of 17.25' because of dike security. If emergency measures are necessary to protect the public prior to these being completed, I have faith that the Corps will act to assure the integrity of the dike. This year, 2007, with the Lake hovering at its lowest level of 9.5', the probability of rain events producing water elevations above 17.25' is slim.

The next most critical performance objective should be water supply. This important objective is lost in the 500-plus page document that discusses lake ecology; waterway navigation; estuarine health; and the greater-Everglades. These are good objectives in and of themselves, but they should not drive the Corps to produce an EIS with a Tentatively Selected plan that has a "significant impact" on water supply. The term "significant" was used by Corps staff to describe the potential impact of the recommended alternative at the Belle Glade meeting.

Page 166 of the June 2007 draft states that "Impacts will occur to sugarcane specifically, and will not impact other crops. Additionally, all impacts will occur in the EAA and none in the four service areas." Those of us who grow crops and citrus along the Caloohatchee River know this finding is wrong. After the droughts of 2000 and 2007, we have real-life experience of the effects a lower Lake has on our crops (Example: When we have Water Restrictions Phase III, this means that we can pump 45% less water than we are permitted. In vegetable farming, this does not mean we produce 45% less vegetables; in reality, we cannot produce any as the production cycle for vegetables is 45-120 days.) This study is not and cannot be complete without a thorough review of the impact on the entire agricultural industry, as well as public water supply.

Page 21 contains another unverified assumption, and that is the continued operation of the "temporary forward pumps" to provide water during lower lake levels. There are no temporary forward pumps to provide water to the growers in the Caloosahatchee River. We are not requesting they be added. We are requesting the Corps truly evaluate the impacts of this proposal.

Page 17 of the June 2007 draft includes section 2.3 "Uncertainty of SFWMD Water Shortage Cutbacks". All the alternatives considered by the Corps assumed the lowering of 1.0 foot to the present water shortage trigger line. The present plan states that the more "likely scenario" is that the SFWMD will lower the trigger line .80 of a foot in advance of the adoption of the Corps new schedule. We understand there has been a recent disconnect between the information provided to the Corps by the SFWMD concerning the trigger levels. Regardless, until the SFWMD completes the complex process required by state law and confirms the assumption used by the Corps that the trigger be adopted in advance, the LORRSS Schedule should not be considered complete or approved. We do not see how this can be completed when the Corps has not been provided this critical information by the District. The District has not committed to complete this course of action.

Finally, buried in the text on page 76 is the note: **"Draft Water Shortage Management Band elevations may change upon completion of SFWMD's rule making process in 2007"**.

Since the Corps' own document recognizes that the schedule is not final, we respectfully submit that the very basic information is not presently available and therefore your document is fatally flawed. We request that you place this schedule on hold and do not change the schedule at this time. We have faith that the Corps can protect the Herbert Hoover Dike through adjustments in the present operations. We request instead that the Corps develop a temporary deviation from the present schedule, if necessary, until the Herbert Hoover Dike repairs are made.

Col. Paul L. Grosskruger
August 20, 2007
Page 4

On behalf of Alico, I appreciate this opportunity to provide comments on such a critical public health and safety issue, the production of quality Florida agricultural products.

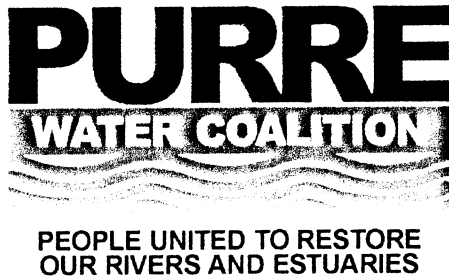
Sincerely,

A handwritten signature in black ink that reads "John R. Alexander". The signature is fluid and cursive, with the first name "John" and last name "Alexander" clearly legible.

John R. Alexander
Chairman of the Board and CEO

Cc: US Congressman Tim Mahoney
US Congressman Allen Boyd
Senator Mel Martinez
Senator Bill Nelson

NON- GOVERNMENT ORGANIZATIONS



Ms. Yvonne Haberer
U.S. Army Corps of Engineers
Jacksonville District, Planning Division
Environmental Branch
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Ms. Haberer:

The PURRE Water Coalition ("PURRE") submits these comments on the Revised Draft Supplemental Environmental Impact Statement for the Lake Okeechobee Regulation Schedule Study ("revised draft SEIS"). To conserve space, we generally incorporate by reference our comments on the draft SEIS and the comments submitted by other governmental and nongovernmental entities in the Caloosahatchee River and Estuary area, including Lee County and the City of Sanibel, on the revised draft and all previous drafts of the SEIS.

We are appreciative of the U.S. Army Corps of Engineers' ("Corps") expressed attempts to consider the impacts of releases from Lake Okeechobee on the Caloosahatchee River and Estuary. Thank you for your efforts. However, we still believe that the analysis in the revised draft SEIS lacks sufficient detail and continues to ignore or skim over many critical issues that we raised in our earlier comments. The Preferred Alternative identified in the revised draft SEIS represents only an incremental improvement over the current situation. While it provides some slight improvements over prior proposals, it still calls for harmful discharges to the Caloosahatchee River from the Lake.

COMMENTS

I. The Revised Draft SEIS Does Not Consider An Adequate Array Of Alternatives

A. The Proposed Plan is a Long-Term Plan

The revised draft SEIS states that the proposed plan is only temporary, until additional storage becomes available in planned CERP and Acceler8 projects. In reality, the plan chosen in this process will likely be in place for many years. Given that more than two years have already passed since this process to modify the current regulation schedule began, it is unrealistic for the Corps to state that Phase 3 of the water regulation schedule planning will follow the projected timeline. Historically, the Corps' "interim" water management plans have tended to be of longer duration than expected, such as the operational plans intended to protect the Cape Sable Seaside Sparrow that began in 1999 and linger today. Because the affected communities may have to

live with the selected plan for years to come, it is essential that this process is effective at evaluating alternatives across all of the relevant performance measures.

B. The Revised Draft SEIS Continues to Apply an Imbalanced Set of Criteria for the Selection of Alternatives

The revised draft SEIS asserts that the Corps changed the 17.25 feet high lake constraint for Lake Okeechobee from a hard constraint into a performance measure. We appreciate the Corps taking seriously our concerns that an arbitrary constraint of 17.25 feet unnecessarily hindered development of alternatives that could result in less harmful discharges into the Caloosahatchee River and Estuary.

However, the revised draft continues to use the Stormwater Treatment Area (“STA”) 3/4 capacity limitation as a hard constraint, which necessarily means that Lake water cannot be sent to the Water Conservation Areas (“WCAs”) in any significant amount, especially during the wet season when high water levels are most likely to be a problem. This results in more Lake water being sent down the Caloosahatchee River into the Estuary. We continue to believe that the STA-3/4 constraint is a blatant double standard that places the interests of the WCAs over the interests of the Caloosahatchee Estuary and its surrounding communities. The Corps has yet to explain why it is willing to adopt a hard constraint based on water quality for the WCAs but not for the Caloosahatchee Estuary.

C. The Revised Draft SEIS does not Include any Alternative that Would Provide Significant Benefits to the Caloosahatchee River or Estuary

Every alternative considered in the revised draft SEIS will result in significant discharges of polluted Lake water into the Caloosahatchee River and Estuary. The Preferred Alternative still calls for extremely harmful discharges to the Caloosahatchee River and Estuary from the Lake. While it provides some improvement over prior proposals in numbers of mean monthly flows above 4500 cfs, the Preferred Alternative is anticipated to cause more than twice as many high flows of long duration (greater than five weeks) than the current WSE. Given the significant detrimental impact that releases from Lake Okeechobee have had on the Caloosahatchee River and Estuary, and the concern repeatedly expressed in the revised draft SEIS to limit such harmful impacts to the maximum extent possible, we still believe the Corps should evaluate at least one alternative that will result in significant benefits for the Caloosahatchee River and Estuary and their surrounding communities.

The Corps describes additional storage capacity that the South Florida Water Management District has proposed to locate on private and public lands. The Corps states that this is a state, not federal, project. As a result, it does not consider the addition of this storage in its analysis of proposed alternatives. The Corps should actively seek these storage opportunities, not hold them at a distance.

D. The No Action Alternative

We still disagree with the Corps’ decision to analyze the now-constructed temporary forward pumps in a separate National Environmental Policy Act (“NEPA”) process from the proposed regulation schedule. We believe that *prior to* installation of the temporary forward pumps and

adoption of a new regulation schedule, the cumulative impacts of the two actions should have been analyzed *together* in one NEPA process. However, now that the temporary forward pumps have been permitted and installed, we believe the SEIS needs to reflect that the pumps have been permitted and constructed. Right now, the revised draft inaccurately states that the temporary forward pumps are “anticipated to be permitted and installed by the SFWMD [the South Florida Water Management District] in 2007.”

E. There is No Analysis of the Effects of the Proposed Alternatives on the Socio-Economic Environment

Section 6 of the revised draft describes the socio-economic conditions in the affected region, but does not include any analysis of the effects of the proposed alternatives on the socio-economic environment. The purpose of Section 6 of the SEIS is to report on the effects of the alternatives, not to merely describe existing conditions. In particular, the damage to our estuary caused by the polluted Lake releases is causing significant long-term harm to our local communities, which should be addressed.

II. **The Revised Draft SEIS Does Not Adequately Analyze the Environmental Impacts of Each Alternative**

A. There are Still Flaws in the Hydrological Modeling Underlying the Revised Draft SEIS

The hydrological modeling underlying the revised draft SEIS is still flawed. The period of simulation for this SEIS, as for the prior draft, is 1965 – 2000. According to the SEIS, the 2001 – 2005 data were not available in time for the SFWMW modeling, although the Corps did use the 2001 – 2005 data in the Lake Okeechobee Operations Screening Model and found the Preferred Alternative E effective for managing high lake elevations under this set of conditions. While we are heartened that the Corps performed some modeling using the 2001 – 2005 data, the Corps states that the SFWMM is the “best available tool that can simulate the complexities of the water control system and operational rules of proposed regional-scale water management alternatives and provide adequate information for making water management decisions.” We continue to urge the Corps to coordinate with the SFWMD to obtain the 2001 – 2005 data and model the effects of the various alternatives using the SFWMM for this period.

The revised draft unsuccessfully attempts to address this concern by describing the use of “additional operational flexibility” to address circumstances that were not evaluated for the period of record (1965 to 2000). The SEIS states that this flexibility is to be used when the LORSS is “not effective at managing lake levels consistent with the intent of the Preferred Alternative.” The SEIS describes some scenarios during which this additional operational flexibility might be implemented, all of which involve conditions experienced in 2001 – 2005, further underscoring the importance of modeling the effects of the various alternatives under a period of record that includes these years. It goes without saying that the Corps must do a public NEPA analysis before implementing unanalyzed operational plans that cause harm to the Caloosahatchee Estuary.

The SEIS describes performance measures for the Caloosahatchee Estuary, but not for the Caloosahatchee River. In fact, the River is hardly discussed in the SEIS at all. Additionally, the only performance measure discussed on evaluating the environmental effects in the Estuary is salinity, which is not actually evaluated, as flow rate (in cubic feet per second, or cfs) is the only measure reported.

There are still other apparent flaws in the modeling. For example, the Corps assumed that 12-16% of Lake releases could be sent down the L-8 canal, when there are limitations on such discharges due to environmental in downstream receiving waters. The Corps assumed steady flows for the Estuary base flows, when the South Florida Water Management Model ("SFWWM") may not be designed to model such flows. The SFWMM also cannot model discretionary actions which are undefined in the plan. We continue to believe there are other technical flaws with the modeling as well.

B. There is Virtually No Discussion of Water Quality Issues and Impacts

1. There is Insufficient Analysis of How Lake Releases Damage the Caloosahatchee River and Estuary

The Corps fails to acknowledge the severe water quality impacts from Lake discharges into the Caloosahatchee River and Estuary, even though these impacts have been well documented and include negative effects on salinity levels, light attenuation for submerged aquatic vegetation, and growth of harmful algal blooms.

We were disappointed to see that the Corps dismissed our concerns about water quality impacts in the Caloosahatchee River and Estuary by stating, in response to our comments on the previous draft, that, "[i]t is outside the scope of the regulation schedule study to model for water quality effects in the Caloosahatchee Estuary." This distorts the purpose of the SEIS – to identify and analyze all impacts – direct, indirect, and cumulative. This necessarily includes impacts on the Caloosahatchee River and Estuary. We are surprised that the Corps would even assert that it need not analyze water quality impacts.

With regard to the brief analysis of the impacts of Lake releases on the Caloosahatchee River and Estuary contained in the revised draft, the numbers cited about water quality are slanted. The revised draft focuses on the fact that Lake Okeechobee releases are only one source of the nutrient loading coming into the Caloosahatchee River and Estuary. However, the year reported, 2000, was a drought year, and even in those conditions, Lake Okeechobee releases accounted for 31 percent of the total nutrient load into the Caloosahatchee Estuary. The use of data from a single year is misleading; the Corps should conduct a long-term analysis of nutrient loading. Furthermore, the Corps ignores the fact that Lake discharges are a point source that can be controlled, unlike the basin flows that account for the rest of the nutrient loads.

Instead of taking for granted that any release schedule will necessarily result in harms to the Caloosahatchee Estuary, as the revised draft SEIS does, the Corps needs to actually analyze the potential impacts of Lake releases. It is well-known that most problems in the Estuary are linked to these water quality issues.

2. There is No Analysis of the Different Water Quality Impacts in the Caloosahatchee River and Estuary of the Various Alternatives

Like the previous draft, the revised draft fails to analyze how the different alternatives affect water quality in the Caloosahatchee River and Estuary. The revised draft still fails to assess how the different alternatives will affect salinity, color/turbidity, and nutrient levels in the waters receiving Lake discharges. A comparative analysis would help everyone understand the choices being made.

3. There is Insufficient Analysis of the Effect of Different Alternatives on Blue-Green Algae, Red Tide, and Red Drift Algae

There is still virtually no discussion in the revised draft of what different alternatives will affect water quality issues such as harmful algal blooms, including blue-green algae, red tide, and red drift algae. We believe inclusion of such analysis is critical.

The revised draft SEIS is dismissive of any link between high nutrient levels in Lake releases and the occurrence of red tide and other harmful algal blooms in the Caloosahatchee Estuary. The SEIS makes the point that in the summer of 2006, blue green algal bloom activity was observed in the Estuary when virtually no water flowed from Lake Okeechobee to the Caloosahatchee River. Use of a single data point is not scientific evidence sufficient to disprove a link between Lake discharges and harmful algal blooms. This also puts on blinders to the cumulative effects of nutrient loading caused by Lake releases. Furthermore, even if no single controllable cause for these blooms has been identified, high nutrient inputs are likely a contributing factor, and the Corps should attempt to lessen the influence of high flow volumes into the Caloosahatchee River and Estuary.

4. There is No Discussion of Compliance with Water Quality Standards

We were disappointed to see that the revised draft still contains no discussion of whether the Caloosahatchee River and Estuary, and associated waters, are currently meeting Florida water quality standards. The revised draft fails to acknowledge the water quality impacts from Lake discharges into the Caloosahatchee River and Estuary, even though these impacts have been well documented.

C. There is No Discussion of Drinking Water Issues

We raised serious concerns regarding drinking water issues in our previous comments. We were therefore disappointed, and surprised, to see that the revised draft SEIS dismisses these concerns with a single sentence that declares, without any analysis, that none of the alternatives would adversely impact drinking water. The revised draft fails to acknowledge the link between nutrient-enriched Lake releases and outbreaks of blue-green algae in the Caloosahatchee River, which threaten a direct source of drinking water for Lee County residents and tourists. We cannot overstate how critical it is that the SEIS study this issue, and the effect that the different alternatives might have on the growth of blue-green algae in the Caloosahatchee.

D. The Discussion of Endangered Species Impacts is Completely Deficient

The revised draft SEIS's discussion of endangered species issues remains weak. It still focuses almost exclusively on endangered species issues in Lake Okeechobee, as opposed to the Caloosahatchee River and Estuary and other areas that are undeniably impacted by Lake releases. There is still virtually no discussion of how the different alternatives might affect listed species and marine mammals in the Caloosahatchee River and Estuary, in particular the West Indian manatee, the Florida smalltooth sawfish, and various species of sea turtles.

We appreciate the Corps' recognition in the revised draft SEIS of critical habitat for manatee in the Caloosahatchee Estuary. However, the conclusion that there will be no effect on the manatees or their critical habitat simply because the Preferred Alternative is "equal to or no better than the No Action Alternative in reducing the number of high flow releases from Lake Okeechobee" begs the question. The revised draft does not address what the impacts will actually be. It also fails to even acknowledge the threat that red tide poses to the manatees, despite the fact that numerous manatee deaths are caused by exposure to red tide each year, as reported by the Florida Fish and Wildlife Conservation Commission. There is also zero analysis of how the effects of Lake releases on seagrass, which are acknowledged in the revised draft, impact the manatees.

Similarly, the smalltooth sawfish analysis remains deficient. The SEIS is intended to act as the biological assessment for the smalltooth sawfish and Johnson's seagrass. Given the lack of information on the effects of the alternatives on smalltooth sawfish, we believe this SEIS does not do an adequate job of assessing the potential impacts to that species and prematurely concludes that the Preferred Alternative will have no adverse effect. More specifically, the section on effects on smalltooth sawfish states that "[s]ince minimal information is known at this time about salinity tolerance levels of smalltooth sawfish and how salinity levels affect this species, the Corps has determined that the proposed alternative regulation schedule would not likely adversely affect the sawfish." But this reasoning is circular – how can the Corps determine that adverse effects are unlikely in the absence of information about how the alternatives will affect a species? It is most likely that deviations from normal salinity levels will cause adverse effects until proven otherwise.

Sea turtles are not even mentioned in this draft. In response to our same comment on the previous draft, the Corps, in a conclusory fashion, responds, in Appendix H, that "sea turtles would not be affected by the preferred alternative plan of the LORS" without including any analysis (or even mention) of the impacts in the SEIS. The SEIS should, at a minimum, describe the occurrence of sea turtles in the study area and explain why they would not be affected by the alternatives under consideration.

E. There is Insufficient Discussion of Impacts on Important Federal Resources in the Caloosahatchee Area

The revised draft SEIS now mentions the presence of the five National Wildlife Refuges that depend upon the Caloosahatchee River for water, but fails to mention that these important national resources are showing signs of impaired ecosystems as a result of the polluted waters

released from Lake Okeechobee into the Caloosahatchee River. The revised draft SEIS also fails to analyze how the different alternatives may impact these Refuges.

F. There Is Insufficient Discussion of Cumulative Impacts

While we appreciate the fact that the revised draft SEIS contains a longer discussion of cumulative impacts than the previous draft, we believe that discussion is still insufficient. As we stated in our previous comments, we believe it is critical that the SEIS analyze the cumulative effect of the releases from Lake Okeechobee on the Caloosahatchee Estuary because additional heavy discharges may be the “tipping point” that causes irreversible damage to the Caloosahatchee Estuary.

Moreover, the cumulative effects analysis is forward-looking only, describing planned projects and studies that *may* improve water delivery. The discussion of planned projects does not explain what effects these projects will have on such performance measures as water quality and storage capacity. Nor does the analysis consider the effects of the high volume water releases of the past that have caused significant damage to the Caloosahatchee River and Estuary. The cumulative effects analysis must look at the effects of past actions, not just describe projects that have not yet been implemented.

III. The Revised Draft SEIS Does Not Demonstrate That the Corps Has Fully Complied With Applicable Legal Requirements

NEPA regulations require federal agencies to consolidate discussion of other statutory compliance issues in an EIS. The revised draft SEIS fails to adequately analyze such compliance, in most instances devoting only a single, short paragraph to the discussion of such compliance.

A. Endangered Species Act

As discussed above, the revised draft SEIS has a poor discussion of endangered species issues and, similarly, has a weak discussion on compliance with the Endangered Species Act (“ESA”). As was true of the previous draft, this draft does not make a clear case that the Corps is in compliance with the ESA, even in the section entitled “Compliance with Environmental Requirements.”

B. Clean Water Act

The Corps has again taken the position that it is not required to obtain a water quality certification from the state under Section 401 of the Clean Water Act (“CWA”) or a National Pollutant Discharge Elimination System (“NPDES”) permit under Section 402 of the CWA for the various water control structures related to Lake Okeechobee and the Caloosahatchee River. We continue to believe, as we stated in our comments on the previous draft, that the Corps needs both Section 401 water certification from the state and Section 402 permits for the water control structures related to Lake Okeechobee and the Caloosahatchee River.

C. State Permitting Requirements

As set forth in our comments on the previous draft, we believe the revised draft SEIS needs to indicate whether the Corps is in compliance with Florida permitting requirements. More specifically, we believe the SEIS needs to address whether the Corps needs “consumptive use” permits or Lake Okeechobee Protection Act, Fla. Stat. § 373.4595, permits as it is an owner and operator of key structures, or has ever applied or received any such permits. The revised draft remains silent on this issue.

IV. **There Is No Discussion of Mitigation Measures**

As was true of the previous draft, the revised draft contains no discussion of measures that could mitigate the adverse impacts of lake releases on the Caloosahatchee River and Estuary. The response (in Appendix H) to our comment on this very same flaw in the previous draft asserts that no discussion of mitigation is necessary because the Preferred Alternative improves conditions in the estuaries. While the Preferred Alternative may improve performance on *some* measures over the No Action Alternative, any of the alternatives evaluated would cause adverse effects during periods of high volume releases, and the Corps should consider ways it could mitigate these effects.

Thank you for giving us the opportunity to provide these comments.

Best regards,



Michael J. Valiquette; Chairman
PURRE Water Coalition



August 16, 2007

U.S. Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, FL 32207-8175

Re: The Lake Okeechobee Release Schedule Study (LORRS) Tentatively
Selected Plan (T3)

Ladies and Gentlemen,

On behalf of the Southwest Florida Watershed Council I would like to thank you for the opportunity to provide comments on the new Tentatively Selected Plan (TSP) for the Lake Okeechobee Water Release Schedule (WSE). We feel that the new TSP (T3) gives the Corps the flexibility that they need to more effectively manage the lake and reduce the harmful peak discharges of nutrient-laden, highly colored freshwater to the Caloosahatchee and the estuary. These discharges damaged seagrass beds, oyster reefs, crustaceans and fish populations and contributed to eutrophic conditions within San Carlos Bay. These outcomes have been repeated continually over the "period of record" and indicate fundamental flaws in the Lake Okeechobee Regulation Schedule.

The Southwest Florida Watershed Council is a multi-county coalition of individuals, organizations, agencies, and businesses that have come together to address issues affecting the Caloosahatchee and Big Cypress watersheds. The purpose of the Watershed Council is to ensure that the interests and concerns of all stakeholders are addressed, and that long term management strategies balance the needs of this region's growth and the natural systems upon which our economy and quality of life depend. One of the chief concerns of our membership is the current condition of the Caloosahatchee River and Estuary. Increased development and land use changes within the basin combined with ill-advised, but often necessary, water management practices have degraded the Caloosahatchee so that it has been listed as the seventh "most endangered" river in the United States by American Rivers.

Upon reviewing the current Lake Okeechobee Release Schedule Study (LORRS) TSP (T3) we submit the following comments for your consideration.

Some of the key changes to the revised TSP that we feel will improve conditions in the river and estuary include:

- The incorporation of measuring flow at S-79 rather than S-77 will allow water managers to more accurately regulate harmful discharges to the estuary by taking into account basin flow and adjusting lake discharges to maintain flows below the biologically based maximum flows of 2,800 cubic feet per second (cfs).
- Reducing the number of times that the model predicts flows exceeding 2,800 cfs at S-79 throughout the 36-year period of record.
- Maintaining the lake at lower levels reducing the need for emergency releases to the estuaries.
- Reducing high water discharges from 4,500 cfs to 4,000 cfs.
- Incorporation of additional storage on state owned lands specified in the Lake Okeechobee Operational Guidance document.

Some of the areas that need improvement include:

- Improving environmental water releases to the estuary to meet the Minimum Flows and Levels (MFL) to protect aquatic habitat in the upper estuary.
- Using the flexibility built into the plan to properly manage water deliveries to the estuary when they are needed and reduce the number of damaging releases until additional storage is incorporated into the system.
- Eliminate the practice of “backpumping” into Lake Okeechobee, while the lake is rising.
- Nutrient laden water backpumped from the EAA into the lake contributes to the Caloosahatchee's nutrient problems.
- In addition, allowing water to be pumped off sugar fields along the C-139 to flow unregulated through the lock by gravity back into the lake at low lake stages should also be eliminated. This practice, although by SFWMD's definition is not considered backpumping, should be eliminated to reduce pollutant loading to the river and estuary.
- Stop the practice of eliminating flow from C-78 and emptying the east Caloosahatchee into Lake Okeechobee when the river is at a higher stage than the lake. Removal of fresh water from the system during the dry season allows saltwater to move upstream impacting habitat in the upper estuary and threatening water supply at the Olga water treatment plant.
- The revised draft SEIS does not adequately address impacts to endangered and threatened species including the West Indian Manatees and Smalltooth Sawfish and does not include analysis of adverse impacts of the alternatives on these species.
- We understand that this version of the lake regulation schedule is temporary and that by 2010 the above issues will be adequately addressed.

We realize that the TSP (T3) is a compromise and is not perfect; however it is a substantial improvement from the previous TSP and the existing release schedule. We would like to thank you for incorporating stakeholders comments into the revised plan and feel that the Corps and the South Florida Water Management District now have the flexibility that they need to properly manage the lake and avoid further damaging the Caloosahatchee and its estuary.

Sincerely,

A handwritten signature in black ink, appearing to read "John R. Cassani". The signature is fluid and cursive, with a small mark at the end.

John Cassani, Chairman
Southwest Florida Watershed Council



NATIONAL WILDLIFE FEDERATION
People and Nature: Our Future Is in the Balance

Via email LORSSComments@saj02.usace.army.mil

August 20, 2007

Attn: Yvonne Haberer
U.S. Army Corps of Engineers
701 San Marco Blvd.
Jacksonville, FL 32207

**Re: Comments on the June 2007 Revised Draft Supplemental Environmental
Impact Statement for the Lake Okeechobee Regulation Schedule**

Dear Ms. Haberer:

The National Wildlife Federation ("NWF") appreciates the opportunity to comment on the June 2007 Revised Draft Supplemental Environmental Impact Statement for the Lake Okeechobee Regulation Schedule ("RDSEIS"). NWF is the nation's largest non-profit conservation advocacy and education organization. It has more than one million individual members as well as 48 affiliate organizations in different states and territories, including Florida. NWF's mission is to inspire Americans to protect wildlife for our children's future.

As you know, the current Lake Okeechobee Regulation Schedule, called the Water Supply and Environment ("WSE"), causes extended periods of high water levels in Lake Okeechobee. These high water levels are stressing the structural integrity of the Herbert Hoover Dike and damaging the lake's natural habitat. NWF thus agrees that the WSE *must* be replaced.

Although the Preferred Alternative (Alternative E) minimizes damaging high lake stage events, there is a trade-off, i.e., it increases the frequency of damaging low stage events. *See* RDSEIS at iii. Any long term solution must ensure that the complex ecosystems of Lake Okeechobee and the related estuaries are adequately protected. In other words, the regulation schedule must ultimately include measures to ensure good water quality and safe, healthy water levels.

Although the proposed Regulation Schedule affects a large, complex system, these comments focus only on the RDSEIS's discussion of impacts on the endangered snail kite.

A. Background on the Snail Kite

As background, and as the RDSEIS acknowledges, the survival of the Everglade snail kite is linked to that of its primary prey, the apple snail. Snail kites feed almost exclusively on these aquatic invertebrates, relying on their keen sight to see the snails in shallow waters. To hunt successfully, kites must have open freshwater marshes that support large populations of apple snails and patches of trees on which they can perch and nest.

Thus, the quality and quantity of the water in Lake Okeechobee is important to the kite's well being. The region must both support apple snails and also maintain emergent vegetation at a density that allows in-flight feeding. Marsh eutrophication would render marsh water quality and its plant community unsuitable as apple snail habitat and severely hamper snail kite feeding. At the same time, if water levels remain too low for too long, apple snail populations will virtually disappear. The kite's survival is inextricably linked to water quality and the hydrologic functioning of these watersheds.

To best protect critical habitat for the Everglade snail kite in the Lake Okeechobee marsh, lake water levels should be between 12.0 and 15.5 feet National Geodetic Vertical Datum ("NGVD"), with these low and high water levels met every three years. Annually, water levels within Lake Okeechobee should be dropping from November through June, stable through August, and peaking in October. Lake Okeechobee and Associated Estuaries Issue Team, FFWCC, Management of Lake Okeechobee and Associated Estuaries (Nov. 2003).

B. The RDSEIS does not Adequately Evaluate Impacts on the Snail Kite

The RDSEIS does not adequately evaluate impacts on snail kites from Alternative E. Rather, it acknowledges that this Alternative will lower lake levels, which could harm the kite, and then concludes that "the overall effects of implementing any of the[] alternatives over the No Action Alternative would be beneficial to

August 20, 2007
Yvonne Haberer
Page 3

the [snail kite]." RDSEIS at 144. The Corps must more thoroughly and accurately evaluate impacts on the kites.

As the RDSEIS explains, long droughts can virtually eliminate apple snails. When populations drop so severely, it takes about five years for the snails (and thus the snail kites) to recover. Alternative E projects many such droughts. Thus, if low lake levels resulting from Alternative E were continued much beyond the three year life of this proposed schedule, it would result in almost certain extirpation of the snail kite from Lake Okeechobee. As snail kite expert Dr. Paul Gray explained, "Alternative E could be the beginning of the end for the snail kite. If lake levels predicted under this scenario are maintained for many years, the kite will not survive." Email from Gray to Sargent (Aug. 20, 2007). The Corps' RDSEIS must evaluate and explain such potential impacts.

We appreciate the opportunity to comment on the RDSEIS and look forward to working with the agencies and other parties toward finding a schedule that can ultimately protect the environment and its species.

Sincerely,

/s/ Randy Sargent

Randy Sargent
Wildlife Conservation Counsel



August 20, 2007

U.S. Army Corps of Engineers
Attn: Yvonne Haberer
701 San Marco Boulevard
Jacksonville, FL 32207-8175
LORSSComments@sah02.usace.army.mil

SENT VIA E-MAIL

Re: The Lake Okeechobee Release Schedule Study (LORRS) Tentatively
Selected Plan (T3)

Dear Ms. Haberer,

On behalf of the Conservancy of Southwest Florida and our over 6,000 members in Southwest Florida, thank you for the opportunity to provide comments on the new Tentatively Selected Plan (TSP) for the Lake Okeechobee Water Release Schedule (WSE). The new TSP (T3) reflects consideration of many of the concerns and recommendations forwarded by our organization during its last iteration. Upon reviewing the current Lake Okeechobee Release Schedule Study (LORRS) TSP (T3), we would like to submit the following comments and further recommendations.

First, we commend some of the key changes to the revised TSP that we believe will improve conditions in the Caloosahatchee River and Estuary. These changes include that the revised TSP:

- Treats 17.25 as performance measure, rather than a fixed management constraint
- Manages the lake at lower elevations, reducing the need for emergency releases to the estuaries
- Allows for quicker response and operational flexibility to lake conditions and tributary inflows
- Improves preferred flow to the coastal estuaries
- Is equal to (extreme) and modestly improves (intermediate) high flow discharges to coastal estuaries
- Provides for base flow to the Caloosahatchee and St Lucie estuaries
- Measures flow at S-79 rather than S-77, which will allow water managers to more accurately regulate harmful discharges to the estuary by taking into account basin flow and adjusting lake discharges to maintain flows below the biologically based maximum flows of 2,800 cubic feet per second (cfs).
- Incorporation of additional storage on state owned lands specified in the Lake Okeechobee Operational Guidance document.

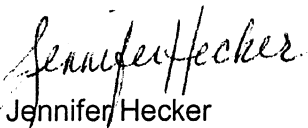
However, some of the areas that we continue to believe require improvement in the Lake Okeechobee Regulation Schedule Tentatively Selected Plan include:

- Adequately assessing the impacts to downstream listed species such as the West Indian Manatee and Smalltooth Sawfish.
- Improving environmental water releases to the estuary to meet the Minimum Flows and Levels (MFL) to protect aquatic habitat in the upper estuary.
- Reducing the number of damaging releases until additional storage is incorporated into the system.
- Eliminating the practice of "backpumping" into Lake Okeechobee, and instead requiring agricultural best management practices and additional storage and retention of agricultural runoff on-site.
- Eliminating agricultural runoff from fields along the C-139 to flow unregulated back into the lake at low lake stages.
- Ceasing to allow flow from C-78 (including water from east Caloosahatchee basin) from being diverted into Lake Okeechobee when the river is at a higher stage than the lake. This diversion of fresh water from the Caloosahatchee River during the dry season allows saltwater to move upriver, adversely impacting habitat in the upper estuary and threatening water supply at the Olga water treatment plant.

Overall, the new revised TSP appears to give the flexibility needed to more effectively manage the lake while reducing the harmful peak discharges of polluted water to the Caloosahatchee River and Estuary. While we understand that this lake regulation schedule is temporary until the new regulation schedule is implemented in 2010, we would urge that immediately following the adoption of this as an interim strategy, thorough analysis and long-term solutions be aggressively sought. These solutions providing system-wide environmental benefit would include additional surficial water storage and treatment north and south of the lake, above and beyond that envisioned and provided for by CERP.

Thank you for incorporating stakeholders comments into the revised plan and please feel free to contact me at (239) 262-0304 x250 should you have any further questions regarding our current comments.

Sincerely,



Jennifer Hecker
Natural Resources Policy Manager



Lake Okeechobee Watershed Program
PO Box 707
Lorida, FL 33857
Tel: 863-655-1831
www.audubonofflorida.org
Audubon@Okeechobee.com

August 20, 2007

Marie G. Burns, Chief
Environmental Branch
Jacksonville District Corps of Engineers
P. O. Box 4970
Jacksonville, FL 32232-0019

Dear Ms. Burns:

Audubon of Florida is pleased to submit these comments on the Corps' Revised Draft Supplemental Environmental Impact Statement (RDSEIS) for the Lake Okeechobee Regulation Schedule Study (LORSS). The RDSEIS has improvements over the current schedule (WSE), and the previous draft of the DSEIS, and we commend the Corps for continued efforts to refine management of Lake Okeechobee and downstream systems, to the extent practicable. This letter updates and adds to Audubon's comments on LORSS from October 10, 2006 and April 24, 2007.

We support the Corp's selection of Alternative E as a reasonable schedule to adopt at this time. Herbert Hoover Dike (HHD) safety is an over-riding issue in developing this new schedule and Audubon recognizes the necessity of keeping the Lake lower, on average, to increase HHD safety. We strongly support the ongoing HHD repair and will continue working with state and federal partners to maximize funding for this critical effort. Once repaired, the schedule can be adjusted to allow deeper, more desirable levels in the lake and reduce the need for "emergency" estuary releases.

We also emphasize that although many parties have legitimate concerns about the preferred alternative, retaining WSE cannot be an option, due to safety concerns. For example, in 2003 WSE did not call for lake-lowering releases in the spring (for about 3.5 months). The lake remained at about 15 feet until the summer and then rose to about 17 feet, triggering massive releases. Had proactive releases been made (as would be in Alternative E), the lake could have been lowered to the 14-foot range and reached a maximum of only about 16 feet. Ensuing releases would have been less harmful. More significantly, if weather similar to 2004 had occurred (when the lake rose about 5.5 feet in two months), it would have put lake levels in the range of almost-certain HHD breach, an unacceptable outcome. WSE must be replaced as soon as possible for public health and safety.

Lake levels and water supply

Under WSE, Lake Okeechobee's littoral zone suffered mostly from high water stages. Although Alternative E lessens this problem, it is projected to keep the lake too low, too often. Thus, there is virtually no change in the percent of time Okeechobee water levels are not in the desired range (the Lake is out of the desired "stage envelope" 72.5% of time for "No Action" and 74.7% for Alternative E). Low levels also portend increased water supply cutbacks. These results appear unavoidable due to current (severe) limitations in the water management infrastructure of south Florida (the C&SF and the HHD). We support the Corp's proposal to link LORSS updates to completion of infrastructure improvements (especially HHD repair and completion of the EAA reservoirs), that will take advantage of increases in operational flexibility as soon as possible.

Low-water issues with Snail Kites and Okeechobee Gourds

Snail Kites: Apple snails are virtually eliminated by long droughts, such as the one that is occurring now. After the 2001 drought, Snail Kites did not nest on Okeechobee in appreciable numbers until 2006 (five years later), presumably due to the time it took snails to repopulate. This drought offers a second chance to monitor the rate and characteristics of snail population recovery. This is especially important because Alternative E projects many MFL violations, which are defined as low levels (below 11 feet for more than 80 days) occurring more than once in six years. If five years is the true recovery time for snails, frequent MFL violations would virtually extirpate Kites from the Lake. The Corps should fund investigations to determine the impacts of low water levels, and if the regulation schedule is protective enough of Kites.

Okeechobee Gourd: This endangered, endemic gourd has a very limited range and is heavily dependent on the organic soils of the islands on the southern end of the Lake. Low water levels dry the soils out, causing subsidence, which might lower the surface of the islands to the extent they can not sustain viable gourd populations. Oddly, MFLs and performance measures for the Water Conservation Areas have very specific criteria to protect their organic soils from oxidation, but there is no similar consideration for Lake Okeechobee's organic soils. The Corps should fund investigations of soil subsidence characteristics related to low water, to ensure permanent harm does not occur to gourd habitat.

Estuaries

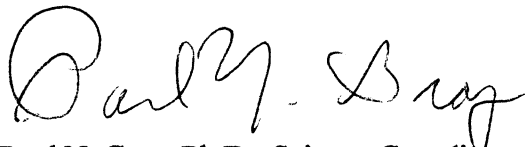
Alternative E appears to offer some improvements for the estuaries. In general, releases are more proactive, which allows lower flows more often and helps avoid very large and damaging flows. Until significantly more storage is built into the system, and southward conveyance, storage, and cleansing capacity are increased, harmful estuary releases will remain a problem. Base flow to the Caloosahatchee Estuary is increased in Alternative E, resulting in fewer projected MFL violations. The Lake Okeechobee Water Supply Management plan is not finalized, but once finished, the Corps should match base flows with the rationing triggers such that Caloosahatchee Estuary releases continue until other users are rationed, whereupon the estuary would be rationed accordingly. Lastly, the new inclusion of base flow options for the St. Lucie Estuary gives another level of flexibility toward improving system management.

Looking forward to the next LORSS iteration

- Non-typical Operations were a feature dropped from the RDSEIS. We think they were a promising avenue, especially provisions to re-establish submerged aquatic vegetation after disastrous losses, which warrant further consideration in future schedules.
- This RDSEIS reports model output as averages of the 36-year period of record. As noted in our October 10, 2005 letter, the 36 years contain weather patterns that are significantly different from each other and lumping them together fails to adequately inform the public, and decision makers, how this schedule is likely to perform. The Corps must develop a formal method to interpret and report model results to reflect these dramatically different weather patterns.
- The SFWMD is developing a Regional Simulation Model for the Okeechobee watershed as part of the Northern Everglades efforts and its usefulness for the Corps in future iterations of the LORSS should be investigated.
- The DSEIS has performance measures in the Water Conservation Areas (WCAs) for peat dry out (Fig. 5-5), recession rates for wading birds (Fig. 5-6), water level reversals (Fig. 5-7), and Snail Kites (Fig. 5-9). These resources also are present in Lake Okeechobee, but comparable performance measures do not exist for the Lake. We understand these issues have been refined from longer years of work in the WCAs, but these measures must be developed for the Lake itself.

We appreciate this opportunity to comment on this proposed schedule change. Audubon has had full-time staff dedicated to Lake Okeechobee since 1936 and this long experience helps us recognize that the challenges in management are as great as the Lake itself. We look forward to working with the Corps and its partners in all arenas to restore this treasure of the Everglades ecosystem, and the downstream systems it interacts with.

Sincerely,

A handwritten signature in cursive script, reading "Paul N. Gray". The signature is written in dark ink and is positioned above the printed name and title.

Paul N. Gray, Ph.D., Science Coordinator
Lake Okeechobee Watershed Program



August 17, 2007

Yvonne L. Haberer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville FL 32232-0019

Re: Draft Lake Okeechobee Regulation Schedule

Dear Ms. Haberer:

This letter is submitted on behalf of the Sanibel Captiva Conservation Foundation to provide comments on the Draft Supplemental Environmental Impact Statement for the Lake Okeechobee Regulation Schedule Study, (LORSS) and tentatively selected plan, (T3), presented to the public in Fort Myers on August 8, 2007.

The Foundation appreciates the Corps willingness to reassess the alternatives analysis presented last fall in response to overwhelming public comment against the 1BS2-m plan. While the new T3 alternative addresses some of our concerns regarding impacts to the Caloosahatchee estuary, it does not provide a substantial reduction in conditions which will continue to harm the Caloosahatchee and western estuary.

While we acknowledge and appreciate the limited improvements this alternative LORSS TSP schedule offers, we are gravely concerned that it will perpetuate damaging releases to the Caloosahatchee.

We recognize the following improvements provided by the T3 alternative regulation schedule.

- Managing the lake at lower levels between 12.5 and 15.5 NGVD
- Measuring flow at S-79 instead of S-77
- Reduced frequency of high volume releases to the estuaries
- Reduction in the number of time flows exceed 2,800 cfs and
- Establishing a lake level of 17.25 as a performance measure, not a constraint.

We remain concerned about the serious impacts that will continue to be experienced by the Caloosahatchee under the lake regulation alternative 'T3'.

1. The alternatives analysis is not comprehensive in that it does include a no action alternative but does not include any alternative that would provide significant benefits to the Caloosahatchee.
2. The selected alternative will still result in too many high volume releases over 4,000 cfs that deliver significant nutrient loads and excess freshwater to the estuary. There is no evidence that reducing maximum flows from 4,500 cfs to 4,000 cfs will provide any reduction in impacts to the estuary.
3. The alternatives analysis does not address the seasonality of releases and their impacts on the biological communities whose life cycle is dependent on regular, seasonal patterns of flow into the river and estuary. Spring releases have historically been the most damaging releases to the estuary and natural systems including seagrass and fish spawning. These have most often been triggered in order to get the lake down to 13 ft by the beginning of Hurricane season. There was no discussion of the seasonality of releases, their potential impacts to the estuary or how they will be considered in the operational guidance.
4. Under alternative T3 minimum flow and level (MFL) exceedences will increase. These exceedences will be further exacerbated by the current practice of backflowing the Caloosahatchee into Lake Okeechobee during low water conditions. Backflowing of the Caloosahatchee from S-78 this year has resulted in a continuous exceedence for low flow to the Caloosahatchee estuary. This has resulted in serious impacts to the estuary including salinity levels that extend east of the WP Franklin Lock and Dam to the Olga Water Treatment plant. This plant has been shut down for most of the year while the river has been backflowing into the lake causing high chloride levels at S-79. The alternatives analysis needs to address the Corps operational policy on backflowing and backpumping and quantify these impacts to the estuaries.
5. The SEIS does not identify, quantify or address the economic impacts to the estuaries of poor water quality, delivered in unnatural quantities and out of sync with the biological resources that will result from the implementation of this TSP.
6. The SEIS fails to address water quality impacts resulting from the regulation schedule. Nutrient loading and freshwater deliveries to the estuary are direct and cumulative impacts of the regulation schedule on the estuary that need to be identified and quantified.
7. The alternatives discussion does not address operational issues such as the replacement of the vertical lift gate that delivers organic loads of muck with water releases to the river. We request that a change to this delivery mechanism be made to allow discharges of water from the surface instead of bottom of the water column.
8. The SEIS does not fully address impacts to federally listed species including the Manatee and Small tooth sawfish.

As the Colonel noted in his presentation, the central problem remains inadequate storage capacity of the current system for the volume of excess water that needs to be managed. In 2005 the Caloosahatchee received over 3 million acre feet of water above and beyond that needed for the health of the estuary. The storage that continues to be discussed is not enough to eliminate the damaging releases with any alternative.

Additional detail is needed regarding the assumptions and coordination between the Corps and Water Management District made about additional storage including:

- a. Location and capacity of basin(s) where 150,000 acre feet capacity is available today and 450,000 acft is proposed to be provided and when that will be available.
- b. Details of how water will be conveyed to these storage sites.
- c. Operational guidance on what conditions would trigger diversion and duration.
- d. The alternatives need to address how alternative storage areas could reduce estuary flows.

Independent analysis has shown that only complete DECOMP will provide the storage and diversion of flows that will protect the lake and estuaries. We would ask that the COE proceed with Full DECOMP to achieve historic flows.

We are hopeful that these issues can be addressed. For further discussion or questions regarding these comments please contact Rae Ann Wessel, Natural Resource Policy Director, by telephone at 239.731.7559 or email at Rawessel@sccf.org.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, reading "Erick Lindblad". The signature is fluid and cursive, with the first name "Erick" and last name "Lindblad" clearly distinguishable.

Erick Lindblad, Executive Director
Sanibel Captiva Conservation Foundation

GENERAL PUBLIC

16 Aug 2007

DEAR C.O.E.

PLEASE SEND ME (LORSS) TSP INFORMATION. I WAS AT MEETING HELD IN OKEECHOBEE public COMM ET. OR public IN part ON 14 AUG 2007. I WOULD LIKE TO SEE REVISED TSP - OPERATIONAL GUIDELINES ② TSP PERFORMANCE - LAKE OKEECHOBEE ECOLOGICAL ③ LORSS SCHEDULE ④ STUDY PROGRESS. ⑤ REVISED TSP - OPERATIONAL GUIDELINES. ⑥ MANAGING WATER LEVELS IN LAKE OKEECHOBEE.

I HAVE WROTE COUNTLESS LETTERS SINCE 1989 UNTIL NOW 2007. AS I SAID BEFORE AND SAY NOW. WATER QUALITY WAS NEVER EVEN ON THE MINDS OF COE. TMDL'S OF 140 METRIC TONS, AND 40 PPS HAS NEVER BEEN ENFORCED. I SAY NOW 2007 YOU PEOPLE WILL NEVER MEET STATE MANDATED 2015 TIME LIMIT, WITH OUT (TMDL'S) ENFORCEMENT. WATER RUN-OFF ENFORCEMENT ON AGRICULTURE OPERATIONS IN OKEECHOBEE BASIN.

P/S SFWMD
POOR-POOR WATER
MANAGEMENT

Robert M. North
TMDL'S 11.1 TONS

15 AUGUST 2007

DEAR C.O.E. PUBLIC COMMENTS.

Robert M. Norton
Veteran
4200 Hwy. 441 SE
Okeechobee, FL 34974

SUBJECT = WHAT I CAME "AWAY FROM MEETING WITH QUESTIONS. "LORSS"

#1 QUESTION - Phosphorus (THINKS) 140 METRIC TONS TO LAKE OKEECHOBEE. IN FLOWS TO LAKE AS FAR AS (C.O.E) CONTROL'S (U.S. EPA) SET STANDARD. IN. NOW. YEAR MAY 2001 YEAR SOME SEVEN YEARS AGO BUT NEVER ENFORCED ANY OF STANDARD'S 140 METRIC TONS

#2. QUESTION - WHEN EXCESS WATER MUST BE RELEASED, RELEASE WATER SOUTH. ONLY NOT EAST COAST OR WEST COAST.

#3 QUESTION - WATER LEVELS CONTROLLED BY (COE) SET AT 10 FOOT LEVELS. SAFE BOATING LEVELS.

#4 QUESTIONS - COE DOES NOT DO WATER QUALITY SET BY (US DEP) 140 METRIC TONS FLOW IN TO LAKE OKEECHOBEE WHY NOT.

#5 QUESTION = Phosphorus (THINKS) 140 METRIC 40 PPS NOT ENFORCED

#6 QUESTION - US DEP DATE 2015 FOR LAKE OKEECHOBEE TMDL 140 METRIC TONS 40 PPB. NOT STATE OF FLORIDA WILL NEVER MAKE 2015 AS I SEE IT, DUE TO NO ENFORCEMENT DONE BY ANY AGENCIES.

#7 QUESTION (COE) TO KEEP LAKE LEVEL LOW DUE TO DIKE WORK SOUTH OF OKEECHOBEE TAYLOR CREEK LOCKS.

#8 QUESTION AGRICULTURE IS LAKE OKEECHOBEE phosphorus problems NORTH OF LAKE, DUE TO WATER FLOWS NORTH TO SOUTH MOVEMENTS (US DEP.) 140 METRIC TONS 40 PPB (TMDL) NOT ENFORCED BY ANY AGENCIES.

#9 QUESTION AGRICULTURE WIDENING DUE TO LOW WATER LEVELS, IN LAKE OKEECHOBEE SUPPLIES BECAUSE COE IS HOLDING LAKE LEVELS LOW FOR REPAIRS OF DIKE AREAS.

#10 QUESTION DR PAUL GRAY LOBBIES FOR AGRICULTURE GOOD OLD BOYS RANCHES IN OKEECHOBEE COUNTY.

THIS IS WHAT I RECEIVED FROM COE PUBLIC MEETING INPUT

Robert M. Norton
Hudson Watch.

Email Correspondence

From	Subject	Received	Size
Subject: Comments on Corps' revised plan for releasing water from Lake Okeechobee (1 item)			
Walter T Gangl	Comments on Corps' revised plan for releasing water from Lake Okeechobee	Fri 8/17/2007 10:1...	7 KB
Subject: Comments on Lake O Schedule (1 item)			
Mark Perry	Comments on Lake O Schedule	Sat 8/18/2007 6:3...	16 KB
Subject: Comments on LORSS (1 item)			
Bob Voisinet	Comments on LORSS	Sun 8/19/2007 4:0...	13 KB
Subject: Comments on the Draft Lake Okeechobee Regulation Schedule (89 items)			
Alison Chabonais	Comments on the Draft Lake Okeechobee Regulation Schedule	Mon 8/20/2007 7:...	4 KB
Celena Chalkley	Comments on the Draft Lake Okeechobee Regulation Schedule	Mon 8/20/2007 8:...	4 KB
William Burke	Comments on the Draft Lake Okeechobee Regulation Schedule	Mon 8/20/2007 6:...	4 KB
Angela VanCleve	Comments on the Draft Lake Okeechobee Regulation Schedule	Mon 8/20/2007 4:...	4 KB
Rachel Dolney	Comments on the Draft Lake Okeechobee Regulation Schedule	Mon 8/20/2007 12...	4 KB
Tim Glover	Comments on the Draft Lake Okeechobee Regulation Schedule	Sun 8/19/2007 9:4...	4 KB
Cheri Riznyk	Comments on the Draft Lake Okeechobee Regulation Schedule	Sun 8/19/2007 8:4...	4 KB
Karen Sands	Comments on the Draft Lake Okeechobee Regulation Schedule	Sun 8/19/2007 7:4...	4 KB
Ellen Dewkett	Comments on the Draft Lake Okeechobee Regulation Schedule	Sun 8/19/2007 7:4...	4 KB
Albert Marin	Comments on the Draft Lake Okeechobee Regulation Schedule	Sun 8/19/2007 3:1...	4 KB
B. Kay Gardner...	Comments on the Draft Lake Okeechobee Regulation Schedule	Sun 8/19/2007 11:...	4 KB
Maida Genser	Comments on the Draft Lake Okeechobee Regulation Schedule	Sun 8/19/2007 1:1...	4 KB
Susan Evans E...	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 9:4...	4 KB
shirley walter	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 7:4...	4 KB
celia mcintosh	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 6:1...	4 KB
Maureen Valiq...	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 6:1...	5 KB
Duane Wicklund	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 4:1...	4 KB
Roberta Claypool	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 2:4...	4 KB
Janet Sears	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 12:...	4 KB
Verona Morse	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 11:...	4 KB
darlene wolf	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 10:...	4 KB
robert wolf	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 10:...	4 KB
Chris Nicosia	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 9:4...	4 KB
Barry Holeve	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 9:4...	4 KB
Melissa Forehand	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 9:1...	4 KB
Regina Stephens	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 8:4...	4 KB
Gregory Esteve	Comments on the Draft Lake Okeechobee Regulation Schedule	Sat 8/18/2007 3:4...	4 KB
Kristin Usher	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 10:3...	4 KB
Louetta Kramer	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 10:0...	4 KB
Elena Darden	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 10:0...	4 KB
Jennifer Holland	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 9:39...	4 KB
Irving Spokony	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 9:39...	4 KB
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Marianne Corri...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 8:39...	4 KB
Dave McKee	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 8:39...	4 KB
Kenneth Bowm...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 7:39...	4 KB
J. Bohmann	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 6:39...	4 KB
Gunter Wendla...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 6:39...	4 KB
Walter R Court...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 5:39...	4 KB
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Linda Ashton	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 5:39...	4 KB
Richard Bergm...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 5:09...	4 KB
Frank DeSerio	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 5:09...	4 KB
Christine Cass	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 5:09...	4 KB

From	Subject	Received	Size
┆ Curtis Dunham	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:38...	3 KB
┆ Peter Morris	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:38...	4 KB
┆ Anne DeNitto	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:38...	4 KB
┆ Janet Weisberg	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:38...	4 KB
┆ S.Jena Daniels	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:08...	4 KB
┆ Eileen Fonferko	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:08...	4 KB
┆ LeAnn Munson	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:08...	4 KB
┆ Donald J Porter	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:08...	4 KB
┆ Jim Hanson	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 4:08...	4 KB
┆ Amber Braatz	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:39...	4 KB
┆ Roberta Richar...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:38...	4 KB
┆ Susan Chandler	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:38...	3 KB
┆ Charlie Day	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:38...	4 KB
┆ Barkley Sprague	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:38...	4 KB
┆ Leslie Wingate	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:38...	4 KB
┆ Stephen Bamford	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:38...	4 KB
┆ Catherine Cush...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:06...	4 KB
┆ Gary H Bishop	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:06...	4 KB
┆ Mary Beth Bro...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:06...	4 KB
┆ Erica Ryan	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 3:06...	4 KB
┆ william & louis...	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:36...	4 KB
┆ Linda Vopicka	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:36...	4 KB
┆ J Swaner	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:36...	4 KB
┆ Barbara Lambros	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:36...	4 KB
┆ Marvin Cornell	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:36...	4 KB
┆ Barbara Wasik	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Janine Gedmin	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Anthony Lorenzo	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Gerald Goldsmith	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Lindsay Martin	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Cindy Anders	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Robert Keiser	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ C. Hall	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ robert andrys	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Dusty washburn	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Dennis Michon	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Joe Serpico	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 2:06...	4 KB
┆ Justin Bloom	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 1:39...	4 KB
┆ william mimnagh	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 1:39...	4 KB
┆ Shannon Harper	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 1:39...	4 KB
┆ Kathy Kirkland	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 1:36...	4 KB
┆ Gerolyn Jenkins	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 1:36...	4 KB
┆ Mary Rawl	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 1:36...	4 KB
┆ Ron Whiteley	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 1:36...	4 KB
┆ Heather Dupuy	Comments on the Draft Lake Okeechobee Regulation Schedule	Fri 8/17/2007 1:36...	4 KB
Subject: Discharges from Lake O (1 item)			
┆ Ed	Discharges from Lake O	Fri 8/17/2007 10:3...	3 KB
Subject: Lake O discharges (2 items)			
┆ Mark Shaber	FW: Lake O discharges	Mon 10/1/2007 10...	5 KB
┆ Mark Shaber	RE: Lake O discharges	Fri 8/17/2007 11:1...	37 KB
Subject: Lake O releases (1 item)			

From	Subject	Received	Size
Jen S	Lake O releases	Fri 8/17/2007 10:4...	4 KB
Subject: Lake Okeechobee (1 item)			
Jennifer McSorl...	Lake Okeechobee	Tue 8/7/2007 5:46...	6 KB
Subject: New Hoover Levee Plans Violate ACOE Policy and Federal law (1 item)			
LWheeler45@a...	New Hoover Levee Plans Violate ACOE Policy and Federal law	Sun 8/5/2007 1:21...	7 KB
Subject: Plan Six:A Flowway South (1 item)			
juliepreast@be...	Plan Six:A Flowway South	Mon 8/20/2007 10...	3 KB
Subject: Please restore water flow to the Everglades (1 item)			
Rosenberg, Beth	Please restore water flow to the Everglades	Thu 8/23/2007 9:...	7 KB
Subject: proposed new regulation schedule for Lake Okeechobee (1 item)			
LJMoller@aol.c...	proposed new regulation schedule for Lake Okeechobee	Sun 8/5/2007 9:57...	8 KB
Subject: Protect the Caloosahatchee (1 item)			
Barbara Joy Co...	Protect the Caloosahatchee	Thu 8/9/2007 7:0...	6 KB
Subject: Release from Lake Ochochobee (1 item)			
Barbara Barnes	Release from Lake Ochochobee	Tue 8/7/2007 5:24...	4 KB
Subject: Releases from Lake Okeechobee into the Caloosahatchee River (1 item)			
Michael J. Bald...	Releases from Lake Okeechobee into the Caloosahatchee River	Tue 8/7/2007 5:39...	10 KB
Subject: Sanibel Island (1 item)			
tkursel@aol.com	Sanibel Island	Thu 8/9/2007 11:...	8 KB
Subject: Sanibel Island - water quality and beach conditions (1 item)			
Jessica M. Ward	Sanibel Island - water quality and beach conditions	Wed 8/8/2007 3:3...	4 KB
Subject: US Army Corps of Engineers Plan for Lake Okeechobee Water Releases (1 item)			
Pawpsnon@aol...	US Army Corps of Engineers Plan for Lake Okeechobee Water Releases	Wed 8/15/2007 8:...	5 KB

Haberer, Yvonne L SAJ

From: Bill Clasen [wfclasen@bellsouth.net]
Sent: Saturday, August 18, 2007 4:39 PM
To: Mark Shaber; LORSSComments, SAJ
Cc: Jen S; adam; Auntie M; Kelly Bailer; boat8750@yahoo.com; Franz; iflong@aol.com; Tami Kick; kolesmum@aol.com; missymark; Mom; nats; Jenny Nelson; Phyll; pruit.ken.web@flsenate.gov; Rick; susan??; John & Linda Taylor; Tom; Travis; ts Skinner@cclpcitrus.com; UncleElder
Subject: Re: Lake O discharges

Putting a stop to the back pumping from the farms into the lake is a good start but the third drain of the Lake "O" sugar farmers septic tank is a must in the short term. The sugar farms are unnatural to the ecosystem of Florida and not needed by the world sugar markets. Beet sugar is an equivalent product and grow very well in the western states where the farmers have plenty of available land and the equipment to do the work. The rain is not going to stop flooding the sugar farms and I'm afraid that the back pumping will begin again soon at which time we will be right back where we were a year ago.

Please stop treating the saint Lucie Lagoon as the leach field for the sugar farmers septic tank.

Bottom line...

Stop the sugar farming. Rice does very well in submerged fields.

----- Original Message -----

From: Mark Shaber <mailto:mshaber@uctcoatings.com>

To: LORSSComments@saj02.usace.army.mil

Cc: Jen S <mailto:jensamermaid@yahoo.com> ; adam <mailto:adamshaber@yahoo.com> ; Auntie M <mailto:mclasengold@bellsouth.net> ; Kelly Bailer <mailto:kellybailer@yahoo.com> ; boat8750@yahoo.com ; Boo <mailto:wfclasen@bellsouth.net> ; Franz <mailto:cobra3@adelphia.net> ; iflong@aol.com ; Tami Kick <mailto:tamikick@yahoo.com> ; kolesmum@aol.com ; missymark <mailto:mjshaber@bellsouth.net> ; Mom <mailto:clasendonna@yahoo.com> ; nats <mailto:natalie.shaber@gmail.com> ; Jenny Nelson <mailto:jnjin1029@aol.com> ; Phyll <mailto:phyllbaby@aol.com> ; pruit.ken.web@flsenate.gov ; Rick <mailto:rickc111@yahoo.com> ; susan?? <mailto:suzylucie@aol.com> ; John & Linda Taylor <mailto:tecottci@bellsouth.net> ; Tom <mailto:swede@adelphia.net> ; Travis <mailto:travisbailer@hotmail.com> ; ts Skinner@cclpcitrus.com ; UncleElder <mailto:unclelder@bellsouth.net>

Sent: Friday, August 17, 2007 11:12 AM

Subject: RE: Lake O discharges

What would you do if your childrens play ground or even your back yard looked like it just had a toilet flush into it. How the hell do you think we feel about the toilet your department designed ?

Mark Shaber

30 year resident of Martin County

<http://www.mynewsletterbuilder.com/userdata/force/images/view__from__space__2005__192x200.JPG>

Please take a minute and send a note to the Army Corps of idiots and tell them to restore the flow south and stop the dumping into the St. Lucie and Caloosahatchee Rivers. The email address is at the bottom of the article.

Thank you!

Army Corps Gets an Earful! <http://www.mynewsletterbuilder.com/userdata/force/images/view__from__space__2005__192x200.JPG>

On the evening of August 8th, at the Wolf Technology Center at IRCC Chastain Center, with little public notice, the Army Corps of Engineers put on a public presentation of LORSS (Lake Okeechobee Regulation Schedule Study) and TPS (Tenatively Selected Plan) TPS is the newest plan to manage releases from Lake Okeechobee into the St. Lucie River Estuary.

The Corps staff may have outnumbered the public but that didn't keep down the outcry of those that attended from voicing their views against Lake Okeechobee releases. All of the public speakers favored the conveyance of excess water South, including Patrick Hayes, Newton Cook, Bob Voisinet, Mark Perry, Gerald Ward, Ted Guy and many others who were able to voice their opinions directly to the ear of Colonel Paul L. Grosskruger, Jacksonville District Commander.

The Corps appeared to be hiding behind statements made that "We have to work within the system we've got." and "We will wait until CERP comes on line to re-think the problem." according to Ted Guy, Rivers Coalition board member and a plaintiff in the Rivers Coalition lawsuit. The public response was unanimous in respondiing, "DON'T WAIT! THINK OUT OF THE BOX!"

A spokeswoman for the Miccosukee Indian Tribe said the tribe favors and urges restoring the flow South through the Everglades. She emphasized that the S-12 gates must be opened and Mod Waters must be completed and flow must be restored under the Tamiami Trail. She said "Why should the Cape Sable Sea Sparrow take precedence over human health, safety and welfare and the welfare of the Everglades?"

The Corps public comment period ends on August 20th. Keep the pressure on by adding your voice with an eMail to;

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Editor: Jamie Burns

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Live well, laugh often, love much

Be a better Heartthrob. Get better relationship answers <http://us.rd.yahoo.com/evt=48255/*http://answers.yahoo.com/dir/?__ylc=X3oDMTI5MGx2aThyBF9TAzIxMTU1MDAzNTIEX3MDMzk2NTQ1MTAzBHNIYwNCQUJwaWxsYXJfTkIfMzYwBHNsawNQcm9kdWN0X3F1ZXN0aW9uX3BhZ2U-?link=list&sid=396545433> from someone who knows.
Yahoo! Answers - Check it out.

Haberer, Yvonne L SAJ

From: Donna Clasen [clasendonna@yahoo.com]
Sent: Friday, August 17, 2007 11:22 AM
To: LORSSComments, SAJ
Subject: Lake Okeechobee Releases

Do not allow any releases of Lake Okeechobee into the St. Lucie or Caloosahatchee Rivers!

Let the water flow in its natural direction - to the SOUTH - instead of polluting the eastern and western rivers of our beautiful State.

To permit releases into the rivers is a violation of the National Pollution Discharge Elimination System (NPDES) , is it not???!!! If the private sector is prohibited from doing so, the Government agencies should be held to an even higher standard.

D.

Yahoo! oneSearch: Finally, mobile search that gives answers <<http://us.rd.yahoo.com/evt=48252/>

*<http://mobile.yahoo.com/mobileweb/onesearch?refer=1ONXIC>> , not web links.

Haberer, Yvonne L SAJ

From: Bailey's General Store [baileysgeneral@baileys-sanibel.com]
Sent: Wednesday, August 08, 2007 1:52 PM
To: LORSSComments, SAJ
Subject: LORSSC Comments

Yvonne Haberer,

Please take into consideration those disastrous impacts that large fresh water releases are having on our island community and the entire bay surrounding us. We understand that difficulty dealing with massive amounts of water that need to be released from Lake O, but strongly urge the Corps of Engineers to find additional areas to release water.

One such area is the Everglades. The River of Grass is starved for water at this time and has been for some time. As we all recognize this is a result of our mistaken role in trying to manage Mother Nature. Here is an opportunity to undue some of the damage that we have caused by restoring some of the water flow that we have taken from the Everglades.

Our future is in your hands; please carefully consider your actions and even inactions.

Richard Johnson

Sanibel Island, Florida

Haberer, Yvonne L SAJ

From: l14408@aol.com
Sent: Tuesday, August 07, 2007 5:55 PM
To: LORSSComments, SAJ
Subject: Lake O

As a resident of Sanibel Island since 1979, watching what has gone on for the last ten years, just makes one shake their heads in dis-belief.

The first time I went across the Lake was in 1976. What a great trip - since becoming a full time resident and boat owner/operator - a trip across the Lake is a wonderful experience - but in the last few years - makes no sense - makes no sense to destroy the Lake - makes even less sense to destroy the waters of Sanibel Island -

What genius has brought the Lake to all time low water - what genius has permitted the constant dumping of the Lake down the Calosahatchee to make Sanibel's water and beaches disgusting and not to mention the smell - I live at 200 Periwinkle Way - right next to the Sanibel Lighthouse and San Carlos Bay - the smell - the filth - the destruction to our beautiful environment cannot be believed.

There has to be a balance - right now our beaches and water beauty is starting to return - but the Lake is un-navigable - WHY.

How did all this survive together until recently -

As a boater - how will the Lake ever be used again? but as a Sanibel resident - how can we ever be comfortable not knowing when some paranoid idiot decides the Lake has to be released - This is 2007 - our technology has to be better than this.

Elizabeth A. Lombardo
Sanibel Island, Florida

AOL now offers free email to everyone. Find out more about what's free from AOL at AOL.com <<http://www.aol.com?ncid=AOLAOF00020000000437>> .

Haberer, Yvonne L SAJ

From: David & Cheri [chobeeites@comcast.net]
Sent: Wednesday, July 25, 2007 4:42 PM
To: LORSSComments, SAJ
Subject: Comment on Lake Okeechobee water level

I am only a two year resident of the Town of Okeechobee but have experienced the extremes of very high and very low lake levels. In my neighborhood of Treasure Island off Taylor Creek we have all lost our lake access via our canals for almost the entire year with no relief in sight. Is there a reason why the Rim Canal and Taylor Creek are allowed to fall to the level of the lake when it gets this low?

Neither the County, the City or SFWMD can or is doing any canal cleaning while the water levels are this low. Many people are experiencing collapsing sea walls as the result of ground water pressure and rain run-off eroding the back sides. My canal, which is about 31/2 feet deep when the Taylor Creek lock is closed is now about 2-3 inches, and most of this is ground water seepage that flows slowly from the canal toward Taylor creek.

I can understand the negative affects of too high a water level in the lake. But I believe the answer to the water storage and clarity issues need to start up stream from the lake by putting the Kissimmee back to its original state, eliminating most of the control structures, and allowing the original sheet flow. Man made endeavors like filter and retention ponds, rock pits and back-pumping into the lake are a huge waste of public funds and a poor excuse for not letting nature do the work.

David Brandt
3927 SE 27th Street
Okeechobee, FL 34974

Haberer, Yvonne L SAJ

From: Cynthia Adkins [info@americanrivers.org]
Sent: Monday, August 20, 2007 11:25 AM
To: LORSSComments, SAJ
Subject: Comments on the Draft Lake Okeechobee Regulation Schedule

Aug 20, 2007

Ms. Yvonne L. Haberer
701 San Marco Blvd.
Jacksonville, FL 32207

Dear Ms. Haberer,

The revised draft Supplemental Environmental Impact Survey (SEIS) of Lake Okeechobee Regulation Schedule Study (LORSS) Tentatively Selected Plan (TSP) represents only a minor improvement over the current situation. This proposal still calls for massive, devastating discharges to the Caloosahatchee River from Lake Okeechobee.

The water quality analysis in the revised draft SEIS does not analyze

the different water quality impacts of each alternative. It still does

not protect against discharges causing water quality violations to the Caloosahatchee River. It also does not address drinking water issues related to water quality in the Caloosahatchee River. In light of the importance of water quality, this is a major flaw.

The River is home to five National Wildlife Refuges, a National

Park-designated blue trail, and supports an ecologically-rich estuary.

The revised draft SEIS does not include any real discussion of impacts to endangered and threatened species. The effects of the different alternatives on species such as manatees and smalltooth sawfish are not analyzed; instead, the SEIS assumes that the alternatives will not have any adverse effects.

The revised draft SEIS states that it is only temporary -- in place only until some of the Comprehensive Everglades Restoration Project plans are launched. In reality, the plan chosen in this process could be in place for many years. More than two years have already passed since the process to modify the current regulation schedule began. As you are probably aware, this process was significant in the designation of the Caloosahatchee as one of American Rivers' "Most Endangered Rivers for 2006."

I urge the Corps to readdress these specific issues and protect the Caloosahatchee River.

Sincerely,

Ms. Cynthia Adkins
3960 Oak Trail Run Apt 1901
Port Orange, FL 32127-7798

Haberer, Yvonne L SAJ

From: A. Denise Plair [adplair@alicoinc.com]
Sent: Monday, August 20, 2007 2:06 PM
To: LORSSComments, SAJ
Cc: J R Alexander; A. Denise Plair
Subject: Comments concerning the Revised Draft Supplemental Environmental Impact Statement; Lake Okeechobee Regulation Scheduled June 2007

Yvonne:

Please forward the attached letter regarding the Revised Draft Supplemental Environmental Impact Statement; Lake Okeechobee Regulation Scheduled June 2007 to Col. Paul L. Grosskruger.

Thanks

Denise Plair

Corporate Secretary

Alico, Inc.

P.O. Box 338

La Belle, FL 33975

863-675-2966 Office

863-675-5799 Fax

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Haberer, Yvonne L SAJ

From: Patti Constantino [info@americanrivers.org]
Sent: Monday, August 20, 2007 3:01 PM
To: LORSSComments, SAJ
Subject: Comments on the Draft Lake Okeechobee Regulation Schedule

Aug 20, 2007

Ms. Yvonne L. Haberer
701 San Marco Blvd.
Jacksonville, FL 32207

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I urge the Corps to readdress these specific issues and protect the Caloosahatchee River.

Sincerely,

Miss Patti Constantino
17249 Helen K Dr
Spring Hill, FL 34610-7720

Haberer, Yvonne L SAJ

From: Laurel Covington [info@americanrivers.org]
Sent: Monday, August 20, 2007 3:31 PM
To: LORSSComments, SAJ
Subject: Comments on the Draft Lake Okeechobee Regulation Schedule

Aug 20, 2007

Ms. Yvonne L. Haberer
701 San Marco Blvd.
Jacksonville, FL 32207

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I urge the Corps to readdress these specific issues and protect the Caloosahatchee River.

Sincerely,

Ms. Laurel Covington

207 Orange Dr

Lutz, FL 33548-4565

Haberer, Yvonne L SAJ

From: Loren Wieland [info@americanrivers.org]
Sent: Monday, August 20, 2007 5:01 PM
To: LORSSComments, SAJ
Subject: Comments on the Draft Lake Okeechobee Regulation Schedule

Aug 20, 2007

Ms. Yvonne L. Haberer
701 San Marco Blvd.
Jacksonville, FL 32207

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I urge the Corps to readdress these specific issues and protect the Caloosahatchee River.

Sincerely,

Mr. Loren Wieland
19021 Acorn Rd
Fort Myers, FL 33967-3302

Haberer, Yvonne L SAJ

From: Walter T Gangl [WTGangl@armstrong.com]
Sent: Friday, August 17, 2007 10:10 AM
To: LORSSComments, SAJ
Subject: Comments on Corps' revised plan for releasing water from Lake Okeechobee

In connection with the U.S. Army Corps of Engineers' hearing to receive comments on its revised plan for releasing water from Lake Okeechobee, please note the following comments:

1. Please add language to the Operational Guidance to specify how and when South Florida Water Management District lands would be used for emergency storage. The Corps' own analysis confirms that sending 150,000 acre feet of water to destinations other than the Caloosahatchee and the St. Lucie Rivers would reduce damaging discharges to our Estuary by 14%. On January 11, 2007, the SFWMD Board voted to accept emergency storage on lands with conveyance and containment. Thus far, 150,000 acre-feet of the promised 450,000 acre-feet have been identified. A 450,000 acre feet release to such lands would reduce those discharges by 25%.

2. There must be accountability to safeguard stakeholders from arbitrary decisions. Please remove all references to non-typical operations, make-up releases and similar events from the Plan. This does no harm to Corps flexibility because the proposed Lake operating schedule already provides flexibility with accountability.

3. Please immediately start preparations for the 2010 LORSS. The recommended Plan presented is considered an interim Plan because it will only be in effect for two years. In the near future, the Corps would benefit from contracting for services to help develop the internal capacity to establish a baseline against which one can judge the impact of potential detrimental releases. The current drought period offers a unique opportunity for establishing such a baseline now.

Thank you. Your attention to these issues will help reduce the serious degradation of water quality and the adverse environmental impacts on those rivers and the marine ecosystems into which they flow.

Walter T. Gangl, Esq.
Attorney at Law
wtgangl@armstrong.com

Haberer, Yvonne L SAJ

From: Adam Shaber [adamshaber@yahoo.com]
Sent: Monday, August 20, 2007 10:31 AM
To: LORSSComments, SAJ
Subject: southern flow

Please move forward in releasing water through the Everglades. Continual discharge of the Lake through the St. Lucie Waterway has degraded water quality, quality of life, and biodiversity throughout the St. Lucie river basin and out into the Atlantic Ocean.

This is an opportunity for the Corps to demonstrate your ability to act in the best interest of the public AND the environment. This is an opportunity to IMPROVE the public view of the Corps as a pro-active organization. This is an opportunity for the Corps to begin building a respectable reputation.

Such action will allow tens of thousands of residents in Martin County to enjoy the county waterways daily, as I have through the 80's and 90's, with no threat to health or wellness.

Regards,

Adam Shaber

Park yourself in front of a world of choices in alternative vehicles. Visit the Yahoo! Auto Green Center.
http://autos.yahoo.com/green__center/

Haberer, Yvonne L SAJ

From: Mark Perry [markperry@floridaoceanographic.org]
Sent: Saturday, August 18, 2007 6:29 PM
To: LORSSComments, SAJ
Subject: Comments on Lake O Schedule

Please accept these as my official comments on the recently proposed Lake Okeechobee Regulation Schedule.

1. The proposed Schedule still allows the same amount of high flow discharges to the St. Lucie Estuary. These are not acceptable and it continues to be a waste of Florida's fresh water resources.
2. The mid-level and low level discharges to the St. Lucie Estuary are also too much and too numerous. They should not be presented as "more is better" in the caption under the graphic for these flows. The minimum flow and level (MFL) for the St. Lucie Estuary has been set at 300 cfs and comes naturally from the underground lateral flow into the Estuary. NO Discharges From Lake Okeechobee are needed to be "beneficial" for the Estuary.
3. Modeling for a Lake O schedule should not include factoring in discharges into the St. Lucie Estuary from C-23, C-24 or C-25. These canals are not connected to the Lake and are managed separately by the SFWMD in the watershed. The state of the flows into the C-44 canal can be factored in as they may influence the capacity to discharge from the Lake through S-308 into the C-44 canal. What ultimately comes out S-80 into the St. Lucie Estuary is historically 77 % from the Lake and 23% from C-44 basin. Schedules should consider this.
4. Timing of releases to the Coastal Estuaries is CRITICAL to the spawn of several estuarine fish and invertebrate species. No discharges should be allowed at these times.
5. More flows should go south through the EAA and the operational capacity for these outlets should increase.
6. The water elevations for a "healthy" Lake are currently between 11.0 ft and 15.5 ft. Any proposed

schedule, should attempt to achieve these ranges at natural seasonal wet and dry cycles.

Thank you

Mark D. Perry

Executive Director

Florida Oceanographic Society

890 NE Ocean Blvd.

Stuart, Florida 34996

772-225-0505 x103

772-225-4725 (Fax)

www.floridaoceanographic.org <<http://www.floridaoceanographic.org/>>

To protect, preserve and restore Florida's ocean and coastal

ecosystems through education, research and personal stewardship

Haberer, Yvonne L SAJ

From: Bob Voisinnet [rlpvoisinnet@comcast.net]
Sent: Sunday, August 19, 2007 4:02 PM
To: LORSSComments, SAJ
Subject: Comments on LORSS

On August 8th I attended the briefing in Stuart, Florida. I asked my questions and was very disappointed in the answers that I received.

The new schedule will do nothing for us on the St. Lucie. The fact that Lake Okeechobee will be lowered is a positive step, one that should lessen the impacts on the estuaries. So why is it that it does just the opposite? Your estimates show the new schedule requiring more discharges to the estuaries? At the very least, water in should equal water out, you are just holding the water level to a lower level. Then why are we getting more water to the estuaries? For the St. Lucie, the new schedule shows essentially no changes to the number of high discharge months, a greater number of medium discharge months, and a lower number of low discharge months. If you sum all that up, IT MEANS MORE WATER TO THE ST. LUCIE. Am I to assume that someone is getting less water. Might that be less water to the south, to the EAA? Oh how Big Sugar continues to get its way! When will SHARED DIVERSITY make its way into the schedule?

I was appalled by the responses I got to questions about the graphs that were presented. How could your presenter possibly say that „ More is Better,“ in response to discharges to the estuaries. The only statement that can be made for the St. Lucie is that LESS IS BETTER or NONE IS BEST! Your presenter didn't seem to realize that the St. Lucie does not need a low level of flow to maintain salinity levels. The west coast may need some flow, but not the east coast. We already have plenty of flow through the C23 & C24 canals from our own watershed. We don't need a single drop of Lake O water! To imply that more is better is a sleazy way to give the uneducated public a warm feeling. You should be ashamed.

Your response to basic questions seemed to be that your hands were tied and that you could do no better. Please, don't wait for CERP to get funded in the hopes that it will solve your problems. CERP will not solve this problem, it is just a drop in the bucket. You really need to think out of the box and consider moving that water to the south, the way mother nature intended. We see PLAN 6 as a major contributor to solving the problem. The sooner that you can give that plan an honest chance, the sooner you will make progress in solving this problem.

Please, don't waste our time with fast talking speakers that don't know their subject matter in the future. Give us something of substance. Give us a solution. Give us a flow way to the south.

Robert Voisinnet

3122 SE Fairway West

Stuart, FL 34997

772-221-9519

Volunteer Water Quality Testing Coordinator

Florida Oceanographic Society

Haberer, Yvonne L SAJ

From: Ed [stparrot@yahoo.com]
Sent: Friday, August 17, 2007 10:32 AM
To: LORSSComments, SAJ
Subject: Discharges from Lake O

To Whom it may concern:

I live on the river in Palm City about half a mile south of the locks. I respectfully request that you take a responsible position with regard to the regulation of discharges from Lake O and the canals.

During Hurricane Jeane by opening the canals at the peak of the surge, they added a foot and a half to the surge and helped flood my property causing thousands in unrecoverable damages. For over two years I can't remember seeing an incoming tide due to the discharges from Lake O. At the present time, we have fish jumping in the river and incoming tides. Let's keep it this way. Please restore the natural flow of the discharges from Lake O to the south and save the Everglades, not destroy the St. Lucie.

Ed Blackburn
Palm City

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Haberer, Yvonne L SAJ

From: Jen S [jensamermaid@yahoo.com]
Sent: Friday, August 17, 2007 10:46 AM
To: LORSSComments, SAJ
Subject: Lake O releases

Restore the flow and send the water SOUTH as mother nature intended. STOP THE DISCHARGES into the St. Lucie and Caloosahatchee Rivers.

Jennifer Shaber
1039 sw 31st Street
Palm City, FL 34990

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Yahoo! FareChase.

Haberer, Yvonne L SAJ

From: Jennifer McSorley [jenmcsorley@embarqmail.com]
Sent: Tuesday, August 07, 2007 5:46 PM
To: LORSSComments, SAJ
Subject: Lake Okeechobee

As you consider public comment on the subject of the water releases from Lake Okeechobee, please consider the following:

As a Sanibel resident, I have seen the negative effects that have thus far come to fruition as a result of the water quality deterioration caused by the water releases. As far as I am concerned, it is imperative that acres of storage land be acquired and put to use to contain some of the water, thus reducing the amount of water that is sent down the Caloosahatchee and the St. Lucie Rivers, therefore lessening the impact of the water upon our waterways.

The Army Corps needs to come up with both a short term plan that will dramatically address the problem so that our sea grasses and related ecology can recover. Additionally, a long term plan needs to be determined and implemented as soon as possible so that we never return to the atrocious conditions that have become commonplace in the last year. The waterways, beaches, and the Gulf of Mexico are not disposable or indestructible entities. This is a fragile ecosystem that needs to be protected immediately.

Thank you for helping to protect our environment.

--

Jennifer McSorley
Pfeifer Realty Group
VIP Realty Group, Inc.
1560 Periwinkle Way
Sanibel, FL 33957
Office: 239-472-5187 ext. 267
FAX: 239-437-7593
Cell: 239-560-2355

Haberer, Yvonne L SAJ

From: LWheeler45@aol.com
Sent: Sunday, August 05, 2007 1:21 PM
To: LORSSComments, SAJ
Subject: New Hoover Levee Plans Violate ACOE Policy and Federal law

By Federal Law definition and ACOE and ASCE engineering standards a levee is ONLY for the temporary retaining of water. By current and proposed use the ACOE Hoover Levees are a operational as a DAM for the long term control of water levels.

A dam like the Hoover Levees requires by Federal LAW ACOE and ASCE design requirements a spillway as was Rejected as Option 6 a noted in Palm Beach Post stories one in 1999/2000 and one 2006

Independent PE PhD staff reports in public record

- 1, Questioned the ACOE engineering assumptions on the current condition of the levee since 1999.
2. Questioned the ACOE failure to have a required by law and accepted minimum engineering design practice a spillway.

The Fla commissioned 2006 report which noted on the first page it failed to conduct validation of ACOE engineering assessments and assumptions explicitly recommended a spillway and indicated a 1 in 6 chance of ca strophic failure of the levee walls.

Given the Explicit written and well known ACOE design manual policy requirements of a spillway in all Dams the current ACOE proposal constitutes prima facie a reckless endangerment of the public lives and property and a Criminal Act under the UCMJ requiring responsible officers Demotion to Private and a few dozen years in Ft Leavenworth confinement..

This is my public comment on the Hoover Levee being used illegally as a Dam Proposal

Leonard

Leonard E. Wheeler, Jr, BSIT, MPA, REM
Retired Former State Disaster Engineer II Eustis, Fla 32726
352 483 9555

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Haberer, Yvonne L SAJ

From: juliepreast@bellsouth.net
Sent: Monday, August 20, 2007 10:29 PM
To: LORSSComments, SAJ
Subject: Plan Six:A Flowway South

Please approve and install the flowway south: Plan Six. This is the common sense solution because it is the original way that water flowed before "man" altered the natural process through the Everglades. The St. Lucie River should not be a dumping ground. The releases do tremendous harm to our delicate and priceless estuary. When are you going to finally do the right thing for the environment? When are you going to admit that protecting the environment supersedes all other considerations?

Edward and Julie Preast
Property Owners on the St. Lucie River
538 N.E. Alice Street, Rio
Jensen Beach, Florida 34957

Haberer, Yvonne L SAJ

From: Rosenberg, Beth [Beth.Rosenberg@billmelater.com]
Sent: Thursday, August 23, 2007 9:12 AM
To: LORSSComments, SAJ
Subject: Please restore water flow to the Everglades

I am a homeowner in Stuart, FL as well as a 4th generation Floridian.

I understand you are currently taking comments from the public relating to the water releases from Lake Okeechobee.

I urge you to take steps to find a plan for diverting excess water from Lake Okeechobee that does not pollute the St. Lucie waterway with water from the Lake. Please find a way to send the water back to a more natural plan back into what is left of the Everglades.

Thank you for your support and help.

Beth Rosenberg
Stuart, FL

Beth Rosenberg
Regional Vice President Sales

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Haberer, Yvonne L SAJ

From: LJMoller@aol.com
Sent: Sunday, August 05, 2007 9:57 AM
To: LORSSComments, SAJ; Chuck.Collins@FWC.state.fl.us; Ken.Haddad@fwc.state.fl.us; rbarreto@bcmpartners.com; dlithgow@bellsouth.net; CaptFrankAdams@aol.com; terry.gibson@imoutdoors.com; kwickstrom@usa.com; StephenW@aol.com; struting57@hughes.net; rpbr1117@bellsouth.net; Knowgrowth@aol.com
Subject: proposed new regulation schedule for Lake Okeechobee

U.S. Army Corps of Engineers,
Attn: Yvonne Haberer, Planning Division, 701 San Marco Blvd., Jacksonville, Fla. 32207
LORSSComments@saj02.usace.army.mil.

Mrs Haberer:

Subject: proposed new
regulation schedule for Lake Okeechobee

The deadline to comment on the proposed new plans for Lake Okeechobee water schedule is Aug. 20.

The plan to try and keep water levels no higher than 17.5 ft above sea level is not acceptable.

The lake must be managed so as to maintain water levels between 12.5 and 15.5. This amount of water has long been reported by many experts and knowledgeable layman as the optimal amount of water for Lake Okeechobee to hold. More that this harms the lake, requires harmful releases to both estuaries and is dangerous to the communities are round the lake because of potential wind waves during hurricanes.

I understand you are planning to improve the Lake's levees, dam, and but this will also allow you to hold more water in the Lake. Such and action will not help the Lake but continue to harm this vital Florida resource.

Also, because the National Park Service, Everglades National Park, has refused to implement MOD Waters you are not able to release what south. Even when the currently planned reservoirs are completed you will not be able to release the proper amount of water south. WHY? When the Lake is full so will these man made reservoirs. These reservoirs will not be able to release water south because there is no place for it go. This water cannot get out the bottom because Everglades National Park has not implemented MOD Waters as required by Federal law.

Thank you for considering my thoughts.

L Jack Moller
2723 Round Hill Court
Katy, TX

77494

ljmoller@aol.com

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Haberer, Yvonne L SAJ

From: Barbara Joy Cooley [bjoycooley@comcast.net]
Sent: Thursday, August 09, 2007 7:09 AM
To: LORSSComments, SAJ
Subject: Protect the Caloosahatchee

Please allow me to submit this public comment on the new water release plan. I was unable to attend last night's public meeting because I am out of the country for three months.

The new plan is only a slight improvement and as such, it is completely inadequate for protecting the environment of the Caloosahatchee, its estuary, and the coastal waters surrounding the island where I live.

The only answer is more storage for water -- and I mean a huge amount of storage. We need to have over a million acre feet of storage available if we are to even begin to address the problem of protecting the estuaries and coastal waters.

I am very mystified about how much concern there is for the agricultural economy, while there is still far too little concern for the coastal economy, which is far more significant to the State of Florida.

Protect the coastal environment, and therefore its economy, or else the economy of Florida may collapse.

Sincerely,

Barbara Joy Cooley
bjoycooley@comcast.net
4241 Old Banyan Way
Sanibel, FL 33957
Address for July & August:
115, rue du Theatre, 5eme droit
75015 Paris FRANCE
Phone 011-33-1-45-75-74-61
Skype bjoycooley
USA voicemail & fax 1-888-253-2548
Web www.b2cool.com

Haberer, Yvonne L SAJ

From: Barbara Barnes [barbabrns@yahoo.com]
Sent: Tuesday, August 07, 2007 5:23 PM
To: LORSSComments, SAJ
Subject: Release from Lake Ochochobee

Dear Sirs,

I am a condo owner on Sanibel and very very concerned about the algea present on the Beach and in the off shore area. This is adversely affecting my rentals as visitors to my condo are not rebooking and have said they do not plan to return to Sanibel due to the nasty conditions of the Beach. Please consider doing whatever is necessary to keep from releasing water from the Lake into the Calossahatchi river.

Barbara Barnes
Loggerhead Cay Condominium #184
Sanibel

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Haberer, Yvonne L SAJ

From: Michael J. Baldwin [drmikeb@comcast.net]
Sent: Tuesday, August 07, 2007 5:39 PM
To: LORSSComments, SAJ
Cc: Terry Baldwin; sancouncil@mysanibel.com
Subject: Releases from Lake Okeechobee into the Caloosahatchee River

As you are aware, Sanibel Island has historically been recognized as one of our finest national examples of how man and nature can live harmoniously together with minimal human impact on a natural, unspoiled environment. Its beaches, extensive protected wildlife habitats, location as a prime resting place for migratory birds and carefully managed commercial development have made it a showcase for ecological harmony. Thanks to the decisions and actions of the Army Corps of Engineers and the South Florida Water Management District that harmony is rapidly being eroded and destroyed.

We have owned property on Sanibel Island for 19 years and have been year-round residents of the island for the past nine. In that time we have seen the water in San Carlos Bay and on the Gulf shore of Sanibel go from an appealing year-round crystal-clear turquoise color to what, in the Summer and Fall, is now all too often a dark brown. The corresponding decrease in salinity, both of which result from the routine discharge of large quantities of contaminated fresh water from Lake Okeechobee through the Caloosahatchee River, are causing significant, unacceptable and damaging changes in the aquatic ecology of the region.

For many years the level of Lake Okeechobee was controlled with no or minimal fresh water discharges down the Caloosahatchee. We find the current practice of discharges totally unacceptable. We urge that this practice cease and that the sea water environment around our home community be allowed to return to its natural state. As an absolute minimum we ask that you accept both the recommendations of your own biologists and input from the Sanibel City Council, as well as basing your future decisions on current wet cycle, not outdated, data. We can only pray that the damage that the Corps and Water Management District have caused is not irreversible.

Sincerely - Michael J. Baldwin, PhD; Theresa T. Baldwin, EdD

Michael J. Baldwin

Phone: (+1) 239-472-8997

Cell: (+1) 239-410-7931

mailto:drmikeb@comcast.net <mailto:drmike@prodigy.net>

Haberer, Yvonne L SAJ

From: tkursel@aol.com
Sent: Thursday, August 09, 2007 11:11 AM
To: LORSSComments, SAJ
Subject: Sanibel Island

I am in support of the following approach from the Mayor of Sanibel. Thank you for your attention to this important matter.
Tom Kursel
2737 W. Gulf Dr
Sanibel FL

Specifically, the former Mayor plans to ask the Corps to:

- 1.) Add language to the Operational Guidance to specify how and when South Florida Water Management District lands would be used for emergency storage. The Corps' own analysis confirms that sending 150,000 acre feet of water to destinations other than the Caloosahatchee and the St. Lucie Rivers would reduce damaging discharges to our Estuary by 14%. On January 11, 2007, the SFWMD Board voted to accept emergency storage on lands with conveyance and containment. Thus far, 150,000 acre-feet of the promised 450,000 acre-feet have been identified. A 450,000 acre feet release to such lands would reduce those discharges by 25%.
- 2.) While the Corps needs flexibility to manage unpredicted events like hurricanes and droughts, there must be accountability to safeguard stakeholders from arbitrary decisions. The City of Sanibel recommends removing all references to non-typical operations, make-up releases and similar events from the Plan. This does no harm to flexibility because the proposed Lake operating schedule already provides flexibility with accountability.
- 3.) Immediately begin to prepare for the 2010 LORSS. The recommended Plan being presented Wednesday is considered an interim Plan because it will only be in effect for two years. In the near future, the Corps would benefit from contracting for services to help develop the internal capacity to establish a baseline against which one can judge the impact of potential detrimental releases. The current drought period offers a unique opportunity for establishing such a baseline now.

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Haberer, Yvonne L SAJ

From: Jessica M. Ward [jessica.ward@mail.mcgill.ca]
Sent: Wednesday, August 08, 2007 3:38 PM
To: LORSSComments, SAJ
Subject: Sanibel Island - water quality and beach conditions

Dear Yvonne Haberer and U.S. Army Corps of Engineers,

I have been coming to Sanibel Island for 26 years, starting when I was nine months old. In fact, my parents came to Sanibel for their honeymoon, and my grandparents bought a condo on Sanibel before that.

As a long-time visitor and a PhD student in aquatic ecology, this place is very close to my heart and has certainly be an inspiration to me in choosing my career path. But in a recent visit to Sanibel, I was extremely alarmed and saddened by negative changes to the ecological health of this nature lover?s paradise. I was especially disturbed by the stinking, but thankfully non-toxic, blue-green algae that washed up on Sanibel?s beaches, and I became even more alarmed when I learned that this sort of thing has been happening more and more frequently in recent years. During our stay, the putrid odor of decaying algae was so strong that we avoided the beach entirely, and even stayed off of our condo?s Gulf-facing balcony because of the awful smell and our irritated eyes and respiratory tracts. It breaks my heart to think that algal blooms, whether toxic or otherwise, might prevent me from bringing my kids to Sanibel one day. I?m writing to ask that you do whatever is in your power to do in order to stop the ecological degradation of Sanibel Island. Specifically, I am asking that you act to implement the actions outlined by the City of Sanibel on the Sanibel H2O matters website

(www.sanibelh2omatters.com) immediately, and that you consider additional actions in order to protect and preserve this special place.

Sincerely,

Jessica Ward

PhD (Biology) candidate, McGill University

Haberer, Yvonne L SAJ

From: Pawpsnon@aol.com
Sent: Wednesday, August 15, 2007 8:17 PM
To: LORSSComments, SAJ
Subject: US Army Corps of Engineers Plan for Lake Okeechobee Water Releases

August 13, 2007

To: US Army Corps of Engineers

We are Florida residents and reside on Sanibel and are concerned about the condition of the City of Sanibel beaches.

We are in agreement with the following:

1. We support the new water release schedule.
2. The U.S. Army Corps of Engineers should take the estuaries into account when making their weekly decisions on releases from Lake Okeechobee.
3. The Corps needs to find more places for the water to go for storage and conveyance south, other than into the estuaries.

We sincerely hope these suggestions will come to fruition.

Thank you very much.

Richard & Mary Butler
2414 Wulfert Road
Sanibel, FL 33957

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Email Form Letter

Haberer, Yvonne L SAJ

From: Anthony Lorenzo [info@americanrivers.org]
Sent: Friday, August 17, 2007 2:06 PM
To: LORSSComments, SAJ
Subject: Comments on the Draft Lake Okeechobee Regulation Schedule

Aug 17, 2007

Ms. Yvonne L. Haberer
701 San Marco Blvd.
Jacksonville, FL 32207

Dear Ms. Haberer,

The revised draft Supplemental Environmental Impact Survey (SEIS) of Lake Okeechobee Regulation Schedule Study (LORSS) Tentatively Selected Plan (TSP) represents only a minor improvement over the current situation. This proposal still calls for massive, devastating discharges to the Caloosahatchee River from Lake Okeechobee.

The water quality analysis in the revised draft SEIS does not analyze

the different water quality impacts of each alternative. It still does

not protect against discharges causing water quality violations to the Caloosahatchee River. It also does not address drinking water issues related to water quality in the Caloosahatchee River. In light of the importance of water quality, this is a major flaw.

The River is home to five National Wildlife Refuges, a National

Park-designated blue trail, and supports an ecologically-rich estuary.

The revised draft SEIS does not include any real discussion of impacts to endangered and threatened species. The effects of the different alternatives on species such as manatees and smalltooth sawfish are not analyzed; instead, the SEIS assumes that the alternatives will not have any adverse effects.

The revised draft SEIS states that it is only temporary -- in place only until some of the Comprehensive Everglades Restoration Project plans are launched. In reality, the plan chosen in this process could be in place for many years. More than two years have already passed since the process to modify the current regulation schedule began. As you are probably aware, this process was significant in the designation of the Caloosahatchee as one of American Rivers' "Most Endangered Rivers for 2006."

I urge the Corps to readdress these specific issues and protect the Caloosahatchee River.

Sincerely,

Mr. Anthony Lorenzo

955 42nd St

Sarasota, FL 34234-4331

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MR. RON MEIDEMA
U.S. EPA, REGION 4
400 N. CONGRESS AVENUE, SUITE 120
WEST PALM BEACH, FL 33401

REGIONAL DIRECTOR
NATIONAL PARK SERVICE
75 SPRING STREET SW
ATLANTA, GA 30303

RICHARD HARVEY
U.S. EPA, REGION 4
400 N. CONGRESS AVENUE, SUITE 120
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U.S. FISH AND WILDLIFE SERVICE
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ATLANTA, GA 30345-3301

MR. PAUL SOUZA
SOUTH FLORIDA ECOSYSTEM OFFICE
U.S. FISH AND WILDLIFE SERVICE
1339 20th STREET
VERO BEACH, FL 32960-3559

REFUGE MANAGER
ARTHUR R. MARSHALL
LOXAHATCHEE NWR
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10216 LEE ROAD
BOYNTON BEACH, FL 33437-9741

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FLORIDA STATE CLEARINGHOUSE
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OKEECHOBEE FIELD STATION
1000 N. E. 40TH AVENUE
OKEECHOBEE, FL 34972

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OKEECHOBEE, FL 34974

FAST BREAK
1505 HWY 78 WEST
OKEECHOBEE, FL 34974

BAIT & TACKLE
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OKEECHOBEE, FL 34974

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SPORTSMAN'S VILLAGE MARINA
1ST STREET NORTH
MOORE HAVEN, FL 33471

**FISHERMAN'S VILLAGE
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MOORE HAVEN, FL 33471**

**UNCLE JOE'S MARINA & MOTEL
LIBERTY POINT
CLEWISTON, FL 33440**

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**JOLLY ROGER MARINA
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CUSTOM LURE'S BY SAM
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**PAHOKEE MARINA
200 UPPER W. LAKEVIEW DRIVE
PAHOKEE, FL 33476**

**SPORTMAN'S VILLAGE MARINA
1ST STREET NORTH
MOORE HAVEN, FL 33471**

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**BAIT & TACKLE
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**OKEECHOBEE AIRBOATS RIDES
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9500 S. W. CONNER'S HWY, #15
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4259 HWY 441 SOUTH
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2730 S. E. HWY 441
OKEECHOBEE, FL 34974**

**CALOOSA LODGE
RT 2 LOT # 31
LAKE PORT, FL 33471
C/O GREG CLOSE**

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FORT MYERS, FLORIDA 33901

CLEWISTON PUBLIC LIBRARY
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CLEWISTON, FLORIDA 33440

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201 Riverside Drive
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